An Inaugural Address

ON

CERTAIN UNDEFINED FACTORS IN THE SPREAD OF DISEASE.

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GENTLEMEN,—I must first take this opportunity of thanking you for the honour you have done me in selecting me to be the first President of this society. A man can have no greater honour than to be thus chosen by those best qualified to judge of his shortcomings—viz., those of his own profession. I can only hope, with the help and support of the vice-presidents, committee, and secretary, that the said shortcomings will not be conspicuous during my year of office. Secondly, I must express an ardent and somewhat confident hope in the future of the society. May it be useful and permanent. A society, it is true, may be useful though temporary. But I am not sure that now local societies may not have before them as long and useful a career as central ones. Decentralisation is one of the marks of progress of the age. There is another factor which makes for the stability of this society. It is largely composed of general practitioners, and there can be no doubt to those who watch the signs of the times that the future of medicine is in the hands of the general practitioner. The physician, as such, must sooner or later become extinct. The pure general consulting physician is already almost a rarity. "Send for a specialist," is now the almost universal cry. It is only the antique type of patient who thinks of calling in a "physician." The very word is barbarous: faulty in its derivation and its root obsolete or degraded. We do not "physic" people now in the old sense. If a "physician" means anything it means a student of "physics," not of "physic," a slang word for drugs. We need a new word derived from the Latin "medicus," or, better still, the Greek ἰατρικός. The physician has done good work, from the time of Linacre, of Caius, and of Harvey, to the present, but his days are numbered. So great has been the progress of surgery during the last thirty years in comparison with that of medicine that we have now almost come to look upon the physician as the lame and halting follower of the surgeon. One by one, too, his provinces are invaded. The great abdominal cavity has practically gone over to the surgeon; the thorax and the nervous system are in the hands of the specialist; the investigations on fevers are largely carried on by the bacteriologist; while the treatment of diphtheria often falls to the throat specialist, who is generally a surgeon. There will be nothing left. If anything is left it will be swallowed up by the Roentgen rays, which will become another speciality, and will, I have no doubt, do much to bring medicine once more abreast of surgery. Long before the close of the coming century the profession will consist mainly of general practitioners and specialists, with a few operating surgeons. The bacteriologists will probably be outsiders. Meanwhile, it remains for us, individually as men and collectively as a society, independently of any shuffling of cards within the profession, to do our best to maintain the high tone and standard which has always, as a rule, characterised its relations with the world outside.

And, thirdly, I have to bring forward some subject of general interest, and, if possible, of usefulness also, to the members of the society. We are a *clinical* society. We have elected, and rightly so, to base our researches primarily on the visible manifestations of disease which we see before us at the present time and in the human subject. But we need not, and we must not, neglect as collateral branches the great records of the past, which show us the course of disease on a larger scale, or the experiments of the laboratory, which show it to us under changed surroundings. These, however, are secondary; our *primary* object is to know the effect of disease, not on other people in other times, nor when cultivated in bottles or on potatoes, but on the particular individual subject before us. For this purpose we must know something of the patient besides his disease. Each patient we see has a distinct pathological individuality; our prognosis of any single case depends more on our knowledge of the life, habits, surroundings, and hereditary tendencies of the patient than on the character of the disease itself. "I know," says the old doctor in one of Oliver Wendell Holmes's works,—"I know the families that have a way of living through everything, and I know the other set that have the trick of dying without any kind of reason for it. I know the folks that think they're dying as soon as they're sick, and the folks that never find out they're sick till they're dead." For this reason, valuable as are hospital records and observations for making out statistics of mortality and the study of morbid anatomy, there are matters of vital importance to a true study of medicine which can only be observed in private practice.

We are sometimes told that our only duty as students of medicine is to observe and collect facts and tabulate results; that we must have no ideas and formulate no hypotheses. I venture to say that this is absolute humbug. No man, woman, or child, ever yet took the trouble to collect facts unless he had some theory to verify. It is this that gives him his interest in the work. The idea may be wrong, it may be changed in the course of the investigation; but it has been worked out in the mind before the investigation commences. Do you suppose Harvey would have made his numerous experiments, Hunter have dissected his lions and tigers, Jenner have spent his time inoculating with vaccinia, or Lister tried his antiseptic treatment, if they had not already thought out some hypothesis which they hoped to prove, but might disprove? There is no dearth of facts. They are as plentiful as blackberries. There are tons of them. What we want is the intelligence to weigh, to interrogate, to classify, to examine and get at the relative value of them. "Non numerandæ sed perpendendæ sunt observationes." There may be men who are fit for nothing better than to collect facts for others to work upon. If so, let them do it. But lack of brain-power is not a common complaint in our profession; and if we have brain-power it is our duty to use it. We have, all of us, a valuable store of knowledge and experience, the outcome of daily observation, which we use for our own and our patients' benefit. It is almost criminal not to attempt to make some further use of it for the public good and for future generations. This society affords us one opportunity of doing so.

In discussing some of the uncertain factors in the spread of disease I must confine myself to three, the extent of whose influence is still doubtful and undefined. These are: (1) pathogenetic evolution; (2) retrograde metamorphosis; and (3) abnormal objective receptivity. Contagion and infection, in view of the researches of bacteriology, can no longer be considered doubtful causes and can only be discussed in their relation to the foregoing. Practically all diseases may be considered communicable. Inoculation, contagion, and infection merely imply different degrees and conditions of communicability. With the leprosy bacillus actually before our eyes we can no longer doubt the wisdom of the great Hebrew legislator in looking upon leprosy as a contagious disease and enforcing disinfection and quarantine by stringent laws. This is only one of numerous instances in which the opinions of the ancients, having been discarded and ridiculed for centuries, have been found to be true ones after all. What appears to be ignorance or superstition is often merely truth expressed in metaphorical language. When Herodotus tells us that Venus inflicted a loathsome disease on the Scythians for violating her temple we have not much difficulty in the diagnosis, although we with our supposed superior wisdom should express it differently. Perhaps, after all, the Greeks knew as much of the pathology of syphilis as we do. Whether they were acquainted with bacteria evidence does not show. At any rate, antiseptic treatment was not unknown to the Romans. It is alluded to by Virgil in the third book of the Georgics:—

> "Aut tonsum tristi contingunt corpus amurca,
> Et spumas miscent argenti, et sulfura viva,
> Idæasque pices, et pingues unguine ceras,
> Scillamque, elleborosque graves, nigrumque bitumen."
> Lib. iii., ll. 448-451.

We find mentioned in these four lines (besides squill and black hellebore) the bases of nearly all the antiseptics of the

present day, olive oil saturated with some substance not stated, nitrate of silver, sulphur (probably sulphurous acid), tar and paraffin, with lard and wax for ointments. These were used as protectives against disease. For what reason if not to prevent the ingress of bacteria?

During the plague of London in 1665 the bacterial origin of the disease was distinctly anticipated, and, as usual, ridiculed, as you may see on reference to Defoe's "Journal of the Plague."[1] The same has occurred much more recently. I have a copy of part of the evidence given before the Commission appointed to inquire into the sanitary state of the army in India in 1861. One of the experts examined, Surgeon-Major Wallich, a well-known microscopist, said he believed that the causes of malaria, fevers, dysentery, and cholera (which he defined as minute plants) might be made quite visible by the microscope. At this suggestion Sir Ranald Martin, one of the members of the Commission, walked out of the room, because, as he afterwards confessed to the witness, he thought the latter was talking "nonsense." The "nonsense" of forty years ago is thus the accepted science of to-day, while some of the discarded hypotheses of antiquity are found to contain a substantial basis of truth.

Let us not, therefore, discard everything that is old simply because it is old or grasp at everything that is new simply because it is new. There is very little real evidence to show that the human intellect is better now than it was in the time of Homer. Our morals are better (I hope), our tools are better, and we have more knowledge and experience in the use of them, but I am afraid this is all. We are naturally elated at our progress in the comparatively new field of bacteriology, but we must rejoice with trembling. Twenty years of further progress in this field will shed a far different light both on etiology and treatment from that we now see by. With regard to the latter, it is hardly possible that the study of therapeutics will ever resolve itself into a long list of immunised sera. It is more probable that the chemical products by means of which immunisation is brought about will be known and manufactured by artificial means, and that thus therapeutics will become an exact science instead of an empirical art. With regard to the former there is also much to be learnt, and the three factors referred to above—(1) pathogenetic evolution; (2) retrograde metamorphosis; and (3) abdominal objective receptivity—are only types of a large number of unknown or imperfectly known conditions under which the pathogenic bacteria increase and multiply, effect an entrance into the human body, and when there convert some of its natural organic products into deadly poisons. To keep ourselves constantly abreast of the latest researches in this department of science will be one of our most important objects.

1. *Pathogenetic evolution.*—The ancient belief in the possibility of spontaneous generation in the organic world has long ago died a natural death and has been followed by a belief that every organism is produced by one like itself in every particular, or at least by one of the same species. This view, however, has been shown by the researches of Charles Darwin to be true only in part. It is now generally admitted that generation is progressive and that the more complex organisms have been gradually evolved from simple ones. Even if evolution is not a complete solution of organic life, but is subject, as I believe it is, to exceptions and reversions, it is still a force to be reckoned with. It is therefore natural that when we come upon a comparatively new branch of biological study like that of bacteriology we should ask ourselves what part, if any, is played by evolution in the history and progress of disease. Have the microphytes of all the diseases flesh is heir to come down in an unbroken line of descent or are they traceable to some simple germ of prehistoric ages when man's only diseases were the wounds received in battle with those extinct monsters he has now exterminated? And what relation in the biological scale do these organisms bear to one another? Are those most destructive to life to be considered higher or lower in the scale than those which only cause inconvenience? Are plague and cholera, e.g., higher types than influenza, smallpox than chicken-pox? These questions must be answered before medicine is an exact science. It is of the utmost importance that we should know whether the micro-organism of influenza (if there is one) can ever become evolved into the organism of cholera or of plague; whether the microphyte of syphilis can under any special conditions, or after an innumerable succession of slight variations, evolve itself into that of leprosy or of cancer; whether any of the bacteria found in ordinary membranous or herpetic sore-throat may, with favourable surroundings, develop either in the same patient or during the course of an epidemic in other patients the well-known Klebs-Löffler bacillus of diphtheria.

1. It is among the records of past epidemics that we must first look for evidence of evolution in disease, for there only can we trace it over sufficiently long periods of time. The oldest known disease is plague. There is no doubt that plague has existed in the world more than 5000 years, and it is still endemic in Egypt and the adjacent parts of Asia and Europe. The earliest epidemic on record is one mentioned by Manetho, the Egyptian historian, as occurring in Egypt in 2500 B.C. From a very early period, in nearly all the ancient writers, there are accounts of constantly recurring epidemics bearing the same general features in the same geographical area. We find them in the Old Testament, in the "Iliad" of Homer, in Ovid's "Metamorphoses" (vii.), in Plutarch's Lives, in Thucydides, in Livy, in Strabo, in Tacitus, and in Pliny. When we come to the plague of Athens, described by Thucydides, and that of the sixth century, by Gibbon, there is no longer any doubt that we are dealing with the same disease that is still endemic in Turkey and in Egypt and was lately so prevalent in Hong-Kong. "The greater number," says Gibbon, "were surprised by a slight fever. The same, the next, or the succeeding day, it was declared by the swelling of the glands, particularly those of the groin, of the arm-pits, and under the ear, and when these buboes or tumours were opened they were found to contain a *coal* or black substance of the size of a lentil." Translate this into modern bacteriological language and we have almost an exact counterpart of the most recent descriptions of the same disease. "Plague," says Kolle in a paper on the plague bacillus in the *Deutsche Medicinische Wochenschrift* of March 4th, 1897—"plague is a polyadenitis, the glands being the starting-place of a septicæmia." "Black pustules or carbuncles," says Gibbon. "Carbuncles, pustules, spots, and petechiæ," says Aitken, almost word for word. Thus we appear to have been dealing with the same disease for two thousand, probably for four or five thousand years. If evolution were the law of pathological life we should expect, considering the short life-history and rapid generation of micro-organisms, to see some change of type in disease after so long a period. The history of the plague does not seem to favour this view. The only difference appears to be that it is less fatal than in the third, sixth, and fourteenth centuries, when it is said to have carried off one-fourth of the population of the world. This is clearly the result of improved sanitation.

Let us take another standpoint. If plague is always the same disease whenever we find it, is the general type of disease changing and is the plague gradually giving way to some other pathological manifestation? Since the seventeenth century it has been practically extinct in the British Isles, although for a thousand years it had been constantly epidemic if not endemic,[2] and during these last two centuries it has been steadily retiring from the continent and going back to its original haunts in Turkey and Egypt. It is possible that plague and cholera may have existed side by side, as they do now, from the foundation of the world; but it appears as if the position formerly held by the former had during the last hundred years begun to be occupied by the latter. We need not accept without question the statements of all the ancient writers, but we cannot deny their knowledge. The writer of the "Iliad," who must have lived 3000 years ago, was a better anatomist than his translator Pope, who lived in the last century. Homer never confused nerves with tendons as Pope did in the description of Achilles's operation on the dead body of Hector.[3] In Walford's "Chronology of Pestilences" there is a list of about 1700 epidemics beginning 2500 B.C. and ending with the plague in Persia and Alaska in 1882. Of these, the large

[1] "Which I look upon with contempt . . . . likewise the opinion of others who talk of infection being carried on by the Air only, by carrying with it vast numbers of Insects, and invisible creatures, who enter into the Body with the Breath, or even at the Pores with the air, and then generate or emit most accute (*sic*) Poisons or poisonous Ovæ (*sic*), or Eggs, which mingle themselves with the Blood, and so infect the Body."

[2] One of the first records of plague on an extensive scale in the British Isles was in 665 A.D., the last in 1665 or 1667 A.D., a plague-wave of just 1000 years. On the continent it began earlier and receded later.

[3] X, 395-404, Pope, xxii., 495-510.

majority (between 900 and 1000), 54·47 per cent., refer almost certainly to the plague, the rest being made up of epidemics of uncertain type, of dysentery, leprosy, throat affections, venereal disease, intermittent fevers, small-pox, and other epidemic fevers, and in the later centuries of influenza, typhus fever (including typhoid fever), and cholera. In the twenty-five centuries B.C. the proportion of plague to other diseases is 137 to 18, 88·38 per cent. In the first five centuries A.D. the proportion is 61 to 17, or 69·43 per cent.; in the five following centuries it is 99 to 37, or 72·79 per cent.; in the eleventh century 37 to 14, or 72·54 per cent.; in the twelfth century 28 to 10, or 73·15 per cent.; in the thirteenth century 46 to 8, or 85·18 per cent.; in the fourteenth century (including, of course, the Black Death, which devastated so large a portion of the world and besides which all other epidemics sink into insignificance) 55 to 57, or 49·1 per cent.; in the fifteenth century 82 to 31, or 72·56 per cent.; in the sixteenth century 127 to 63, or 66·84 per cent.; in the seventeenth century (which includes the Great Plague of London) 144 to 96, or 60 per cent.; in the eighteenth century (including the plague of Marseilles, the disease being now practically extinct in Great Britain and Ireland) 66 to 129, or 22·37 per cent.; and in the nineteenth century, during which cholera more than once established itself as a European epidemic, 44 to 184, or 19·29 per cent. (Table I). During this century the proportion of cholera was 52 to 176, or 22·8 per cent. (Table II).

TABLE I.—*Plague.*

Periods.	Total number of epidemics.	Number of plague epidemics.	Percentage of plague epidemics.
2500 B.C.—0 A.D.	155	137	88·38
0— 500 A.D.	88	61	69·43
500—1000 ,, ...	136	99	72·79
1000—1100 ,, ...	51	37	72·54
1100—1200 ,, ...	38	28	73·15
1200—1300 ,, ...	54	46	85·18
1300—1400 ,, ...	112	55	49·1
1400—1500 ,, ...	113	82	72·56
1500—1600 ,, ...	190	127	66·84
1600—1700 ,, ...	240	144	60·0
1700—1800 ,, ...	295	66	22·37
1800—1882 ,, ...	228	44	19·29
Totals	1700	926	54·47

TABLE II.—*Cholera.*

Period.	Total number of epidemics.	Number of cholera epidemics.	Percentage of cholera epidemics.
1800—1882 A.D.	228	52	22·8

The proportion of typhus fever since the year 1500 has been 7·86 per cent. (Table III), and of influenza altogether 8·92 per cent.; the only century showing any considerable proportion of influenza is the eighteenth, coming between the decline of plague and the advent of cholera, where it is 50 to 245, or 16·94 per cent. (Table IV.). These figures, again, are hostile to any belief in a continuous line of pathogenetic evolution, although cholera seems to have stepped into the place formerly occupied by plague. But evolution may take another form. If the general type of disease does not change from century to century is it possible that a series of shorter changes takes place and that the milder epidemics may evolve, in the course of a few months or years, under favouring conditions, into the more fatal ones? It has been constantly observed, both in ancient and modern times, that the great destructive plagues have been preceded by minor epidemics of catarrh, influenza, measles, and diseases of a less virulent type. Thucydides, a careful observer, says that during the plague of Athens other diseases declined. "None of those diseases to which they were accustomed afflicted them at this time, or whatever there was ended in this" (Hist., lib. ii., 51). More recent observations confirm this. The fatal Black Death of the fourteenth century was preceded by a long succession of outbreaks of influenza and other less fatal epidemics.[4] Of the nineteen epidemics recorded by Dr. Theophilus Thompson in the "Annals of Influenza" seventeen at least were followed by epidemics of a more fatal character: those of 1510, 1557, and 1580 by plague; that of 1658 by a series of continued fevers until 1664; then by malignant fever (probably typhus fever), and this by the Great Plague of 1665; that of 1675 by small-pox and dysentery; that of 1710 by plague; that of 1729 by typhus fever, small-pox, and cholera; that of 1738 by diphtheria; that of 1743 by typhus fever; that of 1758 by scarlet fever; that of 1762 by dysentery; that of 1775 by scarlet fever and diphtheria; that of 1803 by typhus fever; those of 1829, 1831, 1833, and 1837 by Asiatic cholera; also that of 1847 (Table V.). That of 1829 is very remarkable; for cholera, having travelled from India to the south of Russia in 1823, patiently waited seven years for the influenza epidemic, and then immediately spread through the whole of Europe, following practically the same route. Coming to more recent times, the epidemic of influenza in Iceland in 1862 was followed by an extremely virulent epidemic of pneumonia the following year. These facts are striking if evolution could be otherwise established, but alone they only point to a bare possibility.

TABLE III.—*Typhus Fever.*

Periods.	Total number of epidemics.	Number of typhus fever epidemics.	Percentage of typhus fever epidemics.
1500—1600 A.D.	190	15	7·89
1600—1700 ,, ...	240	15	6·25
1700—1800 ,, ...	295	19	6·44
1800—1882 ,, ...	228	26	11·4
Totals	953	75	7·86

TABLE IV.—*Influenza.*

Period.	Total number of epidemics.	Number of influenza epidemics.	Percentage of influenza epidemics.
1700—1800 A.D.	295	50	16·94

TABLE V.—*Sequences of Influenza.*

Date.	Followed by	Date.	Followed by
A.D. 1510	Plague.	A.D. 1743	Typhus fever.
1557	,,	1758	Scarlet fever.
1580	,,	1762	Dysentery.
1658	Continued fevers until 1664.	1775	Scarlet fever; diphtheria.
,,	Malignant fever (typhus?) in 1664.	1803	Typhus fever.
,,	Great Plague of 1665.	1829	Asiatic cholera.
1675	Small-pox; dysentery.	1831	,, ,,
1710	Plague.	1833	,, ,,
1729	Typhus fever; small-pox; cholera.	1837	,, ,,
1738	Diphtheria.	1847	,, ,,

2. Then arises the question, Does evolution ever take place in the progress of a single case? This clinical observation must teach us, and it is one which may well be borne in mind by those who place their experience at the disposal of this society. My own experience leads me to conclude that it is certainly not the rule and that the exceptions may be explained in other ways. The very rarity of the occurrence makes each instance of it a subject of special observation. When we have once made up our minds that a certain doubtful case of sore-throat is not one of diphtheria we are

[4] The first recorded general epidemic of influenza was in 1173. Besides numerous instances recorded in history of plague being preceded by epidemics among the lower animals it is found that in the present day, whether in Asia or Africa, it is usually preceded by an enormous mortality among the rats.

not much disturbed by the thought that it may develop into diphtheria later. It is possible, of course, that the diphtheria bacillus may be engrafted on a sore-throat of some other description, but this seems to be rather unusual. The same remarks apply to doubtful cases of scarlet fever, small-pox, typhus fever, and typhoid fever. Some years ago I saw a case of soft chancre under the prepuce which had been neglected for two years. Amputation became necessary and microscopic examination amply confirmed the diagnosis that the case had now become one of epithelial cancer. The patient died shortly after from a recurrence of the disease. Sir James Paget, who must have had more experience of cancerous tumours than most men, had never seen a case before. The chancre, by reason of its chronicity, had become a suitable soil for the cultivation and growth of the cancer microphyte. The rarity of such cases makes it highly improbable that they are due to any general pathological sequence.

There is, however, another class of cases in which we might be led to expect from the frequency of their occurrence a more natural order of transition from one disease to another. We have spoken of influenza being followed by other epidemic diseases in the same geographical area, but pneumonia following a specific attack of influenza in the same patient we are all familiar with. The zymotic nature of pneumonia is now generally admitted[5] and its micro-organism is known. The influenza epidemics of 1891 and 1892 were especially fatal on account of pneumonic complications. Clinical observation here seems to indicate a special and direct tendency for one zymotic or epidemic disease to run into another of a more virulent type. Whether or not this is an instance of micro-organic evolution can only be finally decided by observation in the bacteriological laboratory. On the other hand, has not clinical observation constantly shown us that in the greater epidemics, whether of plague or cholera, a steady diminution of intensity is the rule? From a mortality of 90 per cent. at the onset of the epidemic it gradually falls to 10 per cent. or less. Is not this an upside-down kind of evolution—degradation rather than progress? In the case of specific attacks of zymotic disease, too, the tendency is, with the exception noted above, to run on to what we consider to be lower forms. We may be wrong in our estimate of the relative biological importance of diseases or of the correct position in the social scale of the various bacteria, but we naturally look upon scarlet fever as a higher type of disease than its sequelæ, nephritis, otitis, stomatitis, rheumatism, &c.; typhus fever and typhoid fever than pneumonia; measles than bronchitis; small-pox than ophthalmia or purulent absorption. Thus, whether we consider the variations of epidemic disease from century to century, or those of a single great epidemic from week to week or from month to month, or those which occur in the course of an attack of zymotic disease in the individual patient from day to day, retrogression appears to be the rule, and evolution, contrary to the general order of organic nature, the exception.

3. We have now to inquire what bacteriology has to say on the subject. At the threshold of this inquiry we are met by the very important experiments of Pasteur on the somewhat similar organisms of mould and yeast. After a long series of experiments and counter-experiments by various observers it has been conclusively demonstrated that it is not possible by any methods of selection or changes of environment through any number of generations to cause mould to evolve into yeast or yeast into mould. These experiments, however, although useful as a standpoint, are by no means conclusive on the general question. If I understand evolution at all it would be equally impossible, however many millions of years were allowed for the experiment, to turn man into an ape or the ape into a man. Yet this would be no proof that they had not the same ancestor. Nor should we with any greater facility breed a horse from a donkey or *vice versâ*. Yet no one now doubts that the horse and the ass are both descended from the extinct hipparion. That there exists under certain conditions a tendency, limited perhaps in extent, to some evolutionary process seems to be shown by the experiments which have been made on the typhoid (Eberth-Gaffky) bacillus and others. These bacilli—the typhoid bacillus, the bacillus enteritidis of Gärtner, and to a still greater extent the bacillus coli communis—are found to increase in virulence in passing through the bodies of animals. In the last-named, according to Dr. Sidney Martin's experiments (referred to in the Croonian Lectures at the Royal College of Physicians of London), evolution seems to proceed in a regular mathematical series, the same effects being produced at first by 6 c.c. of a certain culture, then by 4 c.c., then by 2 c.c. (then by 1 c.c.?), then by 0·5 c.c., then by 0·25 c.c., and then by 0·1 c.c. Many observers, too, he says, have noticed not only an increase in the numbers, but also an exaltation of this bacillus in the course of a case of typhoid fever. The experiments of Marmorek on the streptococcus pyogenes point to precisely the same conclusion. The pathological powers of this organism were greatly exalted "by alternately growing it in guinea-pigs and in a medium made of human blood-serum and bouillon."[6] The virulence of the typhoid bacillus was augmented in like manner, but less rapidly than the bacillus coli. Beginning with 4 c.c., the same effect was produced at the thirteenth inoculation with $\frac{1}{12}$ c.c. and at the sixteenth with half a platinum loopful (whatever quantity that may represent) of an agar culture. None of the ordinary laboratory cultures of the typhoid bacillus, Dr. Martin found, would kill an animal until they had been rendered virulent; in other words, until they had undergone the process of evolution in the bodies of certain animals and under certain special conditions.

There is, therefore, no doubt that, independently of any increase of the number of bacilli in the serum, the later generations of these organisms have a greater functional activity than the earlier ones; and functional activity is in organic nature generally the prelude to structural development. "It is manifest," says Mr. Herbert Spencer, "that there can be no variation of structure but what is directly or indirectly consequent on variation of function."[7] "Function is from beginning to end the determining cause of structure."[8] At the same time they seem to exhibit a very strong tendency towards reversion to the earlier types. This, I think, is as far as the results of bacterial research will at present carry us. Whether microphytic life goes on thus throughout the ages in a series of advancing and receding cycles of short duration, or whether it has an earlier and a later history, one preceding its least virulent and one succeeding its most virulent stage must be left to occupy the minds of future observers. At present, observation has not extended beyond these two points. There are two distinct lines along which this extended life might proceed. In the first place, the micro-organism might commence its existence in a low form of pathogenic life as the organism of some mild catarrhal or local affection and evolve into that of one of the greater epidemics. And, secondly, it might begin its career as one of the harmless or useful bacteria acquiring pathogenic functions at a certain period of its career, and losing them again as it passes on to higher forms of life. Major Giles, I.M.S.,[9] in a paper on the Micro-organisms of Pneumonia, goes so far as to say that "the difference between the organisms of disease and those found everywhere in earth and water are so small that it must be conceded that they cannot have diverged far from some common parent stem." The evolutionary theory certainly receives some support from the numerous instances in which the greater epidemics have been preceded by epidemics of a milder character as well as in many cases by epidemics among the lower animals. At the same time it seems to be negatived by the remarkable permanence of type which is found to have extended over thousands of years as well as by the extreme rarity of any change of type in the history of individual cases. The particular instance of the organism of influenza developing into that of pneumonia is hardly conceivable in view of bacterial research, for the organisms belong to different species. That of influenza, which, however, has not yet been identified with any degree of certainty, is a bacillus, while that of pneumonia is a coccus. This is a gulf we shall hardly be prepared to bridge over; certainly not within the limits of a single case. When we remember, too, that the symptoms of influenza have not yet been definitely induced by cultures of the bacillus and that these symptoms have actually been induced experimentally by inorganic gases[10] it seems at least possible that influenza

[5] In a recent trial one witness spoke of an attack of pneumonia being useful in "setting up the constitution." This is probably only a popular and somewhat unscientific way of expressing the fact of its protective influence against a second attack.

[6] Brit. Med. Jour., June, 1898, p. 1579.

[7] Principles of Biology. [8] Ibid., vol. ., p. 167

[9] Collective Investigation Record, vol. ii., p. 106.

[10] Many years ago Dr. Prout produced all the symptoms of influenza with seleniuretted hydrogen, and Berzelius produced a severe attack

may not necessarily be in every case of bacterial origin, but may sometimes be the result of chemical products generated by other means If this is the case it would perhaps explain the constant reference both in ancient and modern times to earthquakes and volcanic eruptions and the presence in the air of gases popularly called "mephitic vapours" as preceding pestilential outbreaks. There is no doubt that influenza does precede many of the greater epidemics, but this is no proof that the pathogenic microbes are continuous. An attack of influenza, whether of bacterial origin or not, would, by its depressing influence on the nervous system, render the subject of it less resistant to the attacks of zymotic disease. Thus the direct causes of influenza would be the indirect causes of the epidemic which follows it. To this category, as we have already seen, pneumonia undoubtedly belongs. We are forced, therefore, to the conclusion that the causes of pneumonia following attacks of influenza are to be looked for in the increased receptivity following the latter disease rather than in any direct succession of micro-organisms, and that however tempting and plausible may seem the hypothesis of pathogenetic evolution it is not, in the present state of our knowledge, supported by any trustworthy proof.

II. *Retrograde metamorphosis.*—When we come to the subject of the decomposition of animal and vegetable matter as furnishing a nidus for the growth and development of pathogenic organisms we are on surer ground. Its influence on the spread of disease, indeed, has in recent times been strenuously denied and so has the protective influence of vaccination. Such "argumenta ad ignorantiam" may be good enough for politicians, hardly for scientific men. In this instance past history, clinical observation, and bacterial research all agree in affirming some relation of cause and effect between the presence of decomposing organic material in air and water and the prevalence of zymotic disease.

1. All nations and races, whether savage or civilised, ancient or modern, have made careful provision for the disposal of the dead. This is a universal recognition of the evil effects following the exposure of decomposing organic matter. The onset of epidemics, too, from time immemorial has always been referred to the period of autumn, when the ground is covered with fallen leaves and decaying vegetation. We may go back to Homer. We find in the twenty-second book of the "Iliad":—

> Ὃν τε κύν' Ὠρίωνος ἐπίκλησιν καλέουσι·
> Λαμπρότατος μὲν ὅδ' ἐστι, κακὸν δέ τε σῆμα τέτυκται,
> Καί τε φέρει πολλὸν πυρετὸν δειλοῖσι βροτοῖσιν.
>
> X. 29, 30, 31.[11]

Everything goes to show that Homer was an accurate observer. Virgil also. In the third book of the Georgics we have the same fact expressed:—

> "Hic quondam morbo cœli miseranda coorta est
> Tempestas, totoque auctumni incanduit æstu,
> Et genus omne neci pecudum dedit, omne ferarum;
> Corrupit lacus; infecit pabula tabo."
>
> III., ll. 478-481.[12]

It is again repeated by another great observer, Shakespeare, in his "Henry V.":—

> "A many of our bodies shall no doubt
> Find native graves; upon the which, I trust,
> Shall witness live in brass of this day's work:
> And those that leave their valiant bones in France,
> Dying like men, though buried in your dunghills,
> They shall be fam'd; for there the sun shall greet them,
> And draw their honours reeking up to heaven;
> Leaving their earthly parts to choke your clime,
> The smell whereof shall breed a plague in France."
>
> Act iv., sc. 3.

The consensus of opinion is striking. Indeed, all observation, ancient and modern, tends to show that this view is well founded. The greater epidemics since the world began have always shown a decided preference for the autumn and late summer or else they have followed close upon large battles and extensive military campaigns, when the air has been impregnated with the emanations from the dead bodies of slaughtered human beings and animals of war, or after epidemics among the lower animals, vertebrate or invertebrate. The decomposing material may proceed from dead horses or cattle, rats or locusts. Koch found that a large mortality among the rats was always looked upon as a certain precursor of the plague, whether in Africa, India, or China.

The Great Plague of London commenced in November, 1664, and after remaining quiescent throughout the winter reached its maximum degree of virulence the following autumn. More than half the entire number of fatal cases took place during September and the first two weeks in October. The same sequence of events took place at the plague of Moscow. It was first introduced in November, 1770, remained inactive during the winter, and reached its climax in September, 1771, the mortality at one time being 1000 a day. The great cholera epidemic in this country ran a similar course. It began to take on an epidemic character in October and November, 1848; declined, but was not extinct, during the winter, and reached its highest rate of mortality the first week in September, 1849, during which 2000 deaths occurred in London. In the first cholera epidemic, too, that of 1832, by far the greatest number of deaths took place in September. Towards winter, when the temperature is lower and decomposition less active, epidemics almost invariably decline. The more recent epidemics of influenza, even, have been most active in the milder winters, being apparently postponed for a time when the weather is particularly severe. A low temperature means a partial arrest of decomposition. It would seem, therefore, that whatever may be the organisms by means of which disease is conveyed the condition of the atmosphere most favourable to their development and transmission is that resulting from the presence therein of those proximate constituents of organic life which are formed during the retrograde metamorphosis of animal and vegetable tissue. Under no other conditions does this process take place upon so extensive a scale as on the field of battle. Epidemic disease, both among human beings and animals, has always followed in the wake of war. It is not that pestilence is a necessary sequence, but that favourable conditions are brought about for the spread of any epidemic which may be latent. When from the carnage of battle or from any other cause the atmosphere has been impregnated with decomposing animal matter it forms a suitable nidus for the cultivation and development of any pathogenic organisms which may chance to be introduced into it. This took place in this country during the wars between Charles I. and the Parliament in the seventeenth century, and when, a few years later, in 1665, the plague was introduced it raged with excessive violence. The plague of Copenhagen, too, in 1712, followed the invasion of Denmark by Charles XII. of Sweden. And in those regions where certain zymotic diseases are always endemic or latent—i.e., in the vicinity of their natural geographical distribution—war is almost invariably followed by an immediate outbreak. In addition to the accounts given in ancient history, which are too numerous to mention, we find that in the present century every attack of Russia upon Turkish territory, which may be considered the natural home of the plague, has been followed by an epidemic of the disease. The Crimean War was no exception. Nor was the Russo-Turkish War of 1877-78. On the latter occasion plague broke out at Astrakan in the Caucasus and at several places on the Volga; and it was thought by many that we were then within measurable distance of a European outbreak. In this country no prolonged military operations have taken place since the latter part of the seventeenth century. Since the reign of James II. there has been no civil war except the short-lived rebellions of 1715 and 1745. The cessation of civil war was exactly coincident with that of the plague.

2. It is hardly necessary to appeal to modern clinical experience to confirm this great consensus of opinion. The dangers of overcrowding are practically recognised by all. And overcrowding is, after all, simply the presence in the atmosphere of an increased proportion of the decomposing products of animal exhalations, forming a nidus for the propagation of pathogenic bacteria. If the modern open-air treatment of phthisis has any meaning at all it means that even the tubercle bacillus, except in advanced cases of phthisis, is powerless for evil if it be not sufficiently supplied

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on himself lasting fifteen days and paralysing the olfactory nerve by a small bubble of the same gas.

[11] "Orion's dog (the year when Autumn weighs),
And o'er the feebler stars exerts his rays;
Terrific glory! for his burning breath
Taints the red air with fevers, plagues, and death."
Pope's version, Book xxii., ll. 39-42.

[12] "Here, from the vicious air and sickly skies,
A plague did on the dumb creation rise;
During th' autumnal heats th' infection grew,
Tame cattle and the beasts of nature slew,
Pois'ning the standing lakes and pools impure,
Nor was the foodful grass in fields secure."
Dryden's version, III., ll. 721-726.

form the air with the products of retrograde metamorphosis to form a suitable soil for its cultivation. The dangers of the post-mortem room can only be accounted for in the same manner. Decomposing organic tissue is inhaled by the lungs and any microbes introduced through a wound in the skin may find in the blood the necessary nidus for their growth. This condition of susceptibility may be transferred, as is well known, to a puerperal or surgical patient either through the exhalations of the lungs or from contact with the skin. The explanation in all these cases is the same. I have known one member of our profession who, without the least abrasion of the skin, was always attacked with erysipelas after being present at a necropsy, whatever might have been the cause of death. The entrance of decomposing material into the lung was sufficient to excite bacterial growth.

3. The experiments of the laboratory appear in this case fully to bear out the conclusions both of ancient history and of modern clinical experience. The fact stated by Dr. Arthur Ransome[13] that tubercle bacilli are killed by daylight and fresh air means, in other words, that they are unable to grow without the presence of decomposing organic tissue in the atmosphere. His most successful cultivations were made on the condensed moisture of the breath both of healthy and phthisical people, of the air of a wine-cellar, of that of a weaving-shed in Blackburn, and of that in the cellars of some insanitary cottages. Indeed, experiments have abundantly shown, and practically all observers will agree, that none of these organisms will submit to cultivation except in the presence of organic matter, and if such matter is found at all in the atmosphere it is in the form of certain products of retrograde metamorphosis. In the absence of these products the growth of bacteria, and consequently the spread of disease, must be practically *nil*.

III. *Objective receptivity.*—The first question that meets us here is whether receptivity is a normal or an abnormal condition. Is the human body the natural habitat of the pathogenic organisms or is it only certain exceptional individuals, certain exceptional morbid conditions, which furnish the necessary pabula for these microphytes to grow and thrive upon? "To breed vegetation," says Dr. Giles in a paper already referred to, "accustomed to develop in the blood of a living mammal, on scraps of potato, on gelatin, and what not, seems at first sight much like attempting fish culture out of water." The fact thus stated suggests the possibility that such organisms may not, after all, have any special affinity for the animal tissues, but may have commenced their career on other soil. In other words, is it the animal tissue *per se* or is it the animal tissue plus some pathological disturbance which forms a nidus for the reception of the pathogenic organism?

1. We shall not be able to answer this question by an appeal to the history of past epidemics. At the same time there are certain broad facts we are taught by a reference to such history, the knowledge of which will clear the ground for further inquiry. In the first place, we find that the pathogenic state is distinctly exceptional. Only once or twice in the history of the world has epidemic disease even appeared to threaten a universal prevalence. We find, too, in the constant association of famine with pestilence an indication that the pathological effects of starvation are in many cases the determining causes of the extensive incidence of epidemics. A similar pathological condition, but originating in the nerve-centres instead of in the blood, is brought about by licentiousness, while the auto-intoxication caused by sloth and gluttony has been found by experiment to be an equally potent factor in the incidence of zymotic disease. Both these factors have been at work in most pestilential periods. The earlier part of the fourteenth century preceding the Black Death was a time of unbridled luxury and debauchery. A reference to the "Decameron" of Boccaccio will convince anyone of this. He himself attributes the enormous mortality in Florence chiefly to this cause. It may also explain the greater susceptibility of Eastern nations generally than Europeans to plague and to cholera. The converse certainly explains the extraordinary longevity and healthfulness of the Jews both as a race and as individuals.

Coming to more recent records, the remarkable fact already mentioned that most of the greater epidemics of the last five centuries have been preceded by influenza, a disease the origin of which we have not yet been able to trace, again points to the conclusion that some preliminary cultivation is necessary before the human subject falls a victim to the onslaughts of pathogenic bacteria. The comparative infrequency with which these organisms run their virulent, and what we suppose to be their natural, course in the animal body is not in itself a proof that the latter is foreign soil. Waste, as we should call it, appears to be a part of nature's system. There are probably thousands of seeds, animal and vegetable, wasted to every one that grows. Still, it is consistent with its being so, and the frequency of this initial preparedness when they do run that virulent course is *primâ-facie* evidence that it is.

2. Nor is the evidence of clinical observation by any means conclusive. Few would venture to say offhand whether, *ceteris paribus*, zymotic disease attacks by preference the healthy or the unhealthy. Naturally most men would take the latter view, and they would be justified in doing so; but the apparent exceptions are so numerous that we are often staggered in our opinion. This, I believe, is partly due to an ancient superstition, not yet extinct even in our profession, which associates health with a florid complexion and a tendency to obesity. As a matter of fact the contrary is more often the case. Granted that in our present state of civilisation no man's sanitary condition is perfect, the pale, thin student, the active brain-worker and consumer of midnight oil, is a nearer approach to the perfectly healthy type than the red-faced, muscular, fox-hunting squire or the equally muscular agricultural labourer. On this subject I quote the words of a great observer of human nature, the High Master of St. Paul's School; he says: "I do not hesitate to say that if two boys start life together equally sound in constitution, and circumstances lead one to choose an open-air career of muscular exertion and the other the life of the study and the cultivation of the brain the student has the better chance of health and long life." Within the profession I have never yet heard this well-known fact so clearly stated. It is important to recognise it, for not until we can truly estimate the degrees of initial proximity to a normal standard, as well as the deviations caused by evil habits, modes of living, and hereditary tendency, can we even approach the question of receptivity from the clinical side. Meanwhile we are in possession of certain definite facts. We know the prevalence of epidemic disease after the depressing effects of influenza. We know—for we have excluded the possibility of pathogenetic evolution—that pneumonia constantly attacks those whose system is abnormally depressed by the effects of influenza, measles, &c., and even in many cases those whose normal habits of life are interfered with by enforced inactivity from accident. We know, too, that unless inoculated under the skin the syphilitic organism (as well as that of gonorrhœa) practically never invades the human system except when it is under the influence of the depression following an explosion of nervous force.

Heredity is another important factor in determining the incidence of disease. The susceptibility of some families to attacks of zymotic disease is truly striking. Such hereditary tendencies must have had an abnormal origin somewhere. In many cases it is not far to seek. I once knew a family the members of which appeared to catch small-pox on every possible opportunity independent of vaccination. Some were attacked twice, others three times, at intervals of five or six years. The father was a feeble, miserable-looking epileptic. Observation on a more extended scale shows that the children of drunken parents are more liable to attacks from prevailing epidemics and sink under them sooner than other people.[14] The above are both instances of known hereditary deviations from the normal standard. In other cases the tendency is seen, but its origin is lost in obscurity. We know, though we cannot account for, the remarkable elective affinity which seems to obtain between the typhoid and Klebs-Löffler bacilli and the members of our own Royal family. When any of these cases of illness have occurred numbers of other people without this special affinity have been subject to similar conditions, have lived under the same roof, breathed the same air, drunk the same water, eaten the same oysters, and, of course, have swallowed the same bacilli with impunity. In the *Practitioner* for August, 1898, Dr. Hector Cameron brings forward some striking instances of family tendency to diphtheria. In one case it was called "the disease of the family." In another, out of 23 descendants of one man 11 had diphtheria and 7 died.

[13] Experiments on Tubercle Bacilli (reported to the Royal Society) Brit. Med. Jour., April 23rd, 1898.

[14] London Medical Record, Jan. 15th, 1878, pp. 8, 9.

In nearly all the cases there was no communication between the different families. Lastly, we have the well-established fact of the concurrence of zymotic diseases. This is not a matter of popular observation only, but has been worked out statistically by Dr. Barnes of Eye, in Suffolk,[15] not in large towns, where the constant presence of zymotic disease would confuse the results, but in a number of small country villages with populations of under 10,000 and where zymotic disease is only an occasional visitant. (Tables VI. and VII.) It is inconceivable that the microbes

TABLE VI.—*Combination of Diseases.*

Disease.	Estimated number of concurrences.	Actual number of concurrences.	Excess of actual over estimated concurrences.	Percentage of excess.
Small-pox and measles	77	124	47	61
,, ,, scarlet fever ...	141	177	36	25
,, ,, diphtheria ...	62	75	13	20
,, ,, whooping-cough	166	199	33	19
,, ,, fever	286	371	85	29
,, ,, diarrhœa	256	295	39	15
Measles and scarlet fever	115	159	44	38
,, ,, diphtheria ...	50	75	25	50
,, ,, whooping-cough	134	211	77	57
,, ,, fever	233	319	86	36
,, ,, diarrhœa	208	295	87	41
Scarlet fever and diphtheria ...	93	118	25	26
,, ,, whooping-cough	247	285	38	15
,, ,, fever	425	495	70	16
,, ,, diarrhœa	379	451	72	19
Diphtheria and whooping-cough	108	140	32	29
,, ,, fever	186	226	40	21
,, ,, diarrhœa	167	202	35	20
Whooping-cough and fever	499	587	88	17
,, ,, diarrhœa	447	522	75	16
Fever and diarrhœa...	770	1004	234	30

TABLE VII.—*Proportion of Non-concurrent Attacks.*

Disease.	Single occurrences.	Total occurrences.	Percentage of single to total occurrences.
Measles	89	612	14
Small-pox	140	754	18
Diphtheria	97	492	19
Scarlet-fever	248	1122	22
Whooping-cough	293	1315	22
Diarrhœa	501	2032	24
Fever	583	2268	25

of measles and diphtheria, for instance, should elect to travel about the country hand in hand to the extent of 50 per cent. in excess of their estimated probable concurrence. We are thus driven to the conclusion that the microbes of both diseases are constantly present in the air and that some insanitary condition renders each individual liable to fall a victim to the first microbe that crosses his path; in fact, that personal receptivity is the determining cause of the prevalence of both diseases.

3. There are many of the recent researches in bacteriology which have an important bearing on this question. Among the most striking are those of Poehl of Vienna.[16] He finds that tissue respiration is always abnormal in infectious disease and that infection is always preceded by auto-intoxication. The causes he gives are—(1) diminished alkalinity of blood; (2) insufficient supply of oxygen; (3) abnormal fermentation processes in intestine; (4) poisoning from without; and (5) retention of metabolic products. These experiments, if confirmed, seem to be almost conclusive. Remlinger, of the Pasteur Institute,[17] fed eight rabbits for ten days on cabbage soaked in water containing cultures of the typhoid (Eberth-Gaffky) bacillus. The bacilli were found in the fæces all the time, yet only three of the rabbits took typhoid fever. It is possible, then—and this I want to draw special attention to—for an animal to have typhoid bacilli constantly passing through the intestinal canal without contracting the disease. This, I maintain, is what continually takes place under perfectly normal conditions. Of a similar character and tendency are the experiments of Dr. Friedländer and Major Giles, I.M.S., on pneumonia.[18] The latter failed to inoculate some recently captured dogs, while the former succeeded with others which had been confined. On the other hand, Dr. Friedländer failed with his newly-caught rabbits, while Major Giles successfully inoculated some that had lived in the insanitary atmosphere of a rabbit-hutch. I must confess that I am not yet entirely converted to a belief in the bacterial origin of rickets. Yet the remarks of Mercoli[19] of Italy on his experiments accurately express what I believe to be the case with regard to other pathogenic organisms. Rickets he believes to be caused by streptococci and staphylococci. These, he says, are constantly found in children's mouths and are as constantly being swallowed. As long, however, as the alimentary canal is healthy nothing happens, but if it is out of order they enter the blood and affect the nervous system and epiphyseal ends of the bones, causing a form of chronic osteo-myelitis. Dr. Arthur Ransome,[20] in his experiments on tubercle bacilli, found that they were killed by daylight and fresh air, two normal conditions which ought to be everywhere present for this purpose. In their experiments on the typhoid bacillus Achard and Bensaude "have shown that the agglutinating substance may be absorbed by all mucous cavities when introduced into them, provided that such introduction produces lesions. If, however, the mucosa remains healthy it is not absorbed."[21] This statement is made as bearing on an extremely rare case reported by Castaigne in *Médecine Moderne* for Nov. 13th, 1897, of the agglutinating property of the serum being communicated to a child four and a half years old from the mother's milk. In this case, which appears to be almost unique, the child was previously suffering from non-typhoid gastro-enteric disorder, which accounted for the transmission.

In dead or decomposing organic matter the pathogenic bacteria can, as we know, be cultivated *ad libitum*. In a perfectly healthy living body, free from lesions, free from auto-intoxication, and with all the secretions in their normal state (*inter alia*, the saliva itself is a powerful bactericide),[22] I doubt if they would ever be able to reproduce themselves in a virulent form. In other words, we may conclude that the pathogenic microbe is powerless to cause disease in an ideally healthy subject; it requires for its development a soil prepared for its reception, and such a soil does not exist in any perfectly healthy organ or organism. A healthy organism is one in which the brain is in a constant state of normal activity. There may be external conditions of air, water, and surroundings which render such a condition impossible, but in most cases the onset of zymotic disease is the sequel to some individual defect, either hereditary or acquired;[23] some cause of depression of the vital powers, either temporary or permanent.[24] The ancient writers were, perhaps, not altogether wrong when they attributed disease, metaphorically, to the influence of some evil demon. It

[15] St. George's Hospital Reports, vol. vii., p. 59.

[16] Wiener Medicinische Wochenschrift, 1897, No. 4. Brit. Med. Jour., June 5th, 1897.

[17] Annales de l'Institut Pasteur, No. 11, Nov. 25th, 1897; Ibid. March 12th, 1898.

[18] On the Micro-organisms of Pneumonia, by Major G. M. J. Giles, Collective Investigation Record for 1884, p. 115.

[19] Brit. Med. Jour., April 23rd, 1898; Gazzetta degli Ospedali e delle Clin., Jan. 30th, 1898.

[20] Communicated to the Royal Society, Brit. Med. Jour., April 23rd, 1898.

[21] Ibid., Jan. 22nd, 1898.

[22] Ibid., Feb. 26th, 1898; Triolo: Revista d'Igiene e di Medicina Pratica, An. 2, N. 12, Naples.

[23] The remarkable health and longevity of those who practically spend their lives in foul and unhealthy sewers shows how little the freedom from zymotic disease is necessarily dependent on such external surroundings.

[24] It is possible that here we may have to make an exception in favour of small-pox. The incidence of small-pox prior to vaccination and among the unvaccinated has been found to be so universal that this disease appears to have acquired an affinity for the human subject which has become a part of its nature. The recent Act of Parliament for the propagation of small-pox will soon give us the opportunity of renewing our experience of this disease.

would not be wrong to do so now. Of all such demons the most potent for evil is perhaps the demon of Sloth. It is Sloth which leads to ignorance and the neglect of all sanitary precautions. Individually, Sloth is the direct cause of auto-intoxication and the indirect cause of licentiousness and intemperance—all potent factors of susceptibility to disease. To this particular demon we are not, as a profession, especially liable, and we may congratulate ourselves that it is so. Indeed, we have some of us wished on occasion that we had rather more of it. But let us remember that idleness is not only an evil condition, but that it is an unhappy one. In the words of the great poet of the last century:

> "She mark'd thee there,
> Stretch'd on the rack of a too easy chair;
> And heard thy everlasting yawn confess
> The pains and penalties of idleness."[25]

If there is any danger of our ever lapsing into this state I hope it will be avoided by the mental work and food for thought which may hereafter be provided by the discussions and researches of the Chelsea Clinical Society.

FURTHER OBSERVATIONS ON A CASE OF TOTAL EXTIRPATION OF THE STOMACH IN THE HUMAN SUBJECT.

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(Specially translated for THE LANCET.)

ON Sept. 6th, 1897, I performed total extirpation of the stomach in the case of a woman, fifty-six years of age, suffering from diffuse carcinoma of the entire stomach. The continuity of the digestive tract was maintained by stitching a loop of the small intestine to the lower end of the œsophagus and in the results the operation was a complete success. An examination made by Professor Ribbert showed that the excised stomach was affected with small-celled alveolar glandular carcinoma (Kleinalveoläres Drüsenzellencarcinom) and that of the two incisions isolating its extremities one passed through the œsophagus and the other through the duodenum. The patient recovered completely and on Oct. 30th I was able to show her at the meeting of the Central Association of Swiss Medical Practitioners held at Olten. My published articles on this case of œsophago-enterostomy, together with observations on nutrition and digestion after complete removal of the stomach, appeared in the *Correspondenz-Blatt für Schweizerärzte* (1897, No. 23), in the *Beiträge zur Klinischen Chirurgie* (vol. xix., Part 3), in the *Medical Record* (New York, Dec. 25th, 1897), and in THE LANCET (Jan. 15th, 1898). On April 14th, 1898, Professor Krönlein exhibited the excised stomach at the German Surgical Congress held in Berlin, gave a short account of the subsequent condition of the patient, and drew particular attention to the fact that this case was the only one which could with absolute accuracy be described as extirpation of the stomach, on which account it was of entirely exceptional value for the study of the digestive processes which take place in the absence of the stomach.

There are several reasons which induce me at the present time, fully nine months after the operation, to draw up a comprehensive account of the further progress of the patient and of the investigations which have hitherto been made upon her. A period of observation extending over nine months would in itself justify an elaborate report. She was fit for discharge long ago, but we have been permitted to retain her in the hospital, where she is well taken care of and has suitable occupation. On the one hand, we attached great importance to the protracted careful examination of the case and to the prolongation of the chemico-physiological observations, while, on the other hand, the very straitened circumstances of a friendless woman, now fifty-seven years of age, gave reason for apprehension that at her own home she would hardly have the food she required, to say nothing of proper cooking. Unfortunately, the hospital regulations with respect to admission will make her early discharge inevitable, which is an additional motive for the drawing up of a clinical report. Moreover, some important series of observations have been completed.

[25] The Dunciad.

On Oct. 30th, 1897, hardly eight weeks after the operative intervention, the patient had so far recovered from her cachectic state that the long railway journey and the appearance in public at Olten were in no way injurious to her. Her weight had increased about 4·4 kilos. (9½ lb.) since the operation. Her condition at that time may be best judged of from a dietetic error which was committed with impunity before she appeared at the meeting, for she took advantage of her first liberation from hospital control to indulge heartily in vegetables (cauliflower). A few weeks later, at the end of November, her food differed little from the ordinary patients' diet, and her hours for taking it have since then been the regular mealtimes of the other inmates of the hospital. The few departures which have been made from the ordinary patients' diet have been occasioned principally by her completely toothless condition. For some months she has been wearing artificial teeth, but her power of mastication is nevertheless far from being good. She felt herself at that time perfectly well and was engaged all day long at work of various kinds in the wards.

The following diet lists, selected from those of different months in 1898, will give a good idea of the quantity and kind of food which she took in the course of the day. [The grammes and cubic centimetres of Dr. Schlatter's MSS. are here represented by their equivalents in ounces.] Jan. 17th: Milk, 33 fl. oz.; coffee without milk, 13 fl. oz.; 3 rolls; 3 eggs; soup, 3½ fl. oz.; fried sausage, 4 oz.; stewed apples, 7 oz.; whortleberries, 3 oz.; and claret, 7 fl. oz. Feb. 5th: Milk, 11½ fl. oz.; 3 rolls; 3 eggs; soup, 4 fl. oz.; sweetbreads, 10½ oz.; cauliflower, 7 oz.; and claret, 7 fl. oz. March 4th: Milk, 10½ fl. oz.; coffee without milk, 7 fl. oz.; soup, 4 fl. oz.; roast veal, 4 oz.; carrots, 14 oz.; 4 rolls; and claret, 7 fl. oz.

Her hours for meals and the amount taken on each occasion were usually as follows:—6.30 A.M.: coffee with milk, from 7 fl. oz. to 10½ fl. oz., and 1 roll. 9.30 A.M.: 1 egg, 1 roll, and 3½ fl. oz. of claret. 12 noon: soup; half the day's allowance of meat and vegetables or fruit. 3 P.M.: coffee with milk, from 7 fl. oz. to 10½ fl. oz., and 1 roll. 6 P.M.: the remaining half of the day's allowance of meat and vegetables. 5.30 P.M.: 1 roll and 7 fl. oz. of claret Her animal food generally varied between roast veal, Vienna steak, chops or cutlets, beefsteak, fried sausage, brain, sweetbread, and fowl. Along with it there was given either something made with flour, groats, or eggs, or, in the absence of this, peas, beans, carrots, potato soup, cauliflower, stewed apples, whortleberries, small plums, and such like.

The following table of the patient's weight at different periods will be the best proof of the excellent assimilation of her food. When she was shown at Olten on Oct. 30th, 1897, she weighed exactly 36 kilos. (79¼ lb.), having gained about 4 kilos. (8¾ lb.) since the operation.

Date.	Weight. Kilos.	lb.	Date.	Weight. Kilos.	lb.
1897.			1898.		
Nov. 19th ...	36·5 =	80½	Feb. 23rd ...	37·9 =	83½
Dec. 3rd ...	37·5 =	82½	March 10th ...	38·1 =	83¾
,, 17th ...	37·0 =	81½	,, 24th ...	38·1 =	83¾
,, 31st... ...	36·5 =	80½	April 7th ...	39·0 =	85¾
1898.			,, 22nd ...	39·3 =	86½
Jan. 12th ...	36·5 =	80½	May 10th ...	40·0 =	88
,, 25th ...	37·0 =	81½	,, 24th ...	38·2 =	84
Feb. 9th... ...	37·5 =	82¾	,, 28th ...	39·0 =	85¾

Her greatest gain in weight since my first public statement relative to the case, made on Oct. 30th, 1897, has therefore been exactly 4 kilos. (8¾ lb.), as observed on May 10th, 1898, being a total increase of 8·4 kilos (18½ lb.) since the operation. On two occasions there were considerable set-backs in the slowly-increasing series of weights. From the middle of December, 1897, to the middle of January, 1898, there was a reduction of 1 kilo. (2¼ lb.), caused by a severe attack of angina (i.e., tonsillitis or sore-throat) accompanied by high temperatures. The second fall in weight, recorded on May 24th, 1898, was the result of a serious error in diet. Some days previously the patient had eaten excessively of French beans; immediately after doing so she suffered from violent abdominal pain, and for several days she had no appetite. At the end of May her appetite and digestion regained their ordinary condition and her weight rose to 39 kilos. (85¾ lb.).

Through her relaxed abdominal walls there cannot at present be felt either a tumour or a spot sensitive to pressure, so that there are no indications of a relapse. The only

unusual sensation experienced by the patient is a feeling of pressure in the epigastrium and in both hypochondriac regions after a hearty meal. A quantity of milk amounting to 300 grammes (10½ fluid oz.) or upwards is quite capable of producing this feeling of pressure. The patient also says that she limits her meals from dread of these painful sensations of pressure or tension. Until a short time ago she asserted that she had quite lost the feeling of hunger through the operation, but these two statements do not agree well with one another. The promptings of hunger seem now to be resisted only for fear of the pains which follow too hearty a meal.

In my previous work I have touched upon the various functions of the stomach, which are of course in this case abolished. Dr. Wroblewsky, at that time chemical assistant in the Zürich Medical Klinik, has published his chemical investigations of the patient's urine and fæces in full in the *Centralblatt für Physiologie*, vol. xi., No. 91 (Jan. 8th, 1898); I am much indebted to him for the examination of these excreta undertaken immediately after the operation. He is disposed to regard the remarkably low figures representing the chloride of sodium contained in the urine as an argument in favour of Köppe's view relative to the production of hydrochloric acid in the stomach. According to this theory the hydrochloric acid is not formed from the chlorides of the blood and is not excreted by the gastric mucous membrane, but is formed directly from the chlorides of the food on the surface of the gastric mucous membrane by dissociation of the chloride of sodium and exchange of the sodium-ions and hydrogen-ions of the blood by a process of diosmosis. On account of the absence of gastric mucous membrane no hydrochloric acid is formed in this patient and only small quantities of the chlorides of the food are absorbed in the intestine, so that only an inconsiderable amount is excreted in the urine.

Hofmann,[1] who has in recent months made a series of valuable investigations of the metabolic processes occurring in our patient, does not accept Wroblewsky's explanation of the diminished chlorine in her urine. He was surprised at the retention of chloride of sodium, which, moreover, continued as long as his observations lasted. In addition to ascertaining the chloride of sodium present on each occasion in the separate samples of urine he also determined the total amount of chloride of sodium contained in the fæces, and found that the latter was quite normal in quantity, which proved that the chlorides were absorbed to the normal extent. Hofmann's explanation of the long-continued retention of the chloride of sodium is that the stock of it which is essential for the organism became exhausted during the preceding long period of partial starvation and has not yet been made up to its full amount, and that in particular the extra quantity of chloride of sodium which is, according to Voit, present in the blood of well-fed persons has not yet attained its previous standard. The diminished excretion of chlorine is therefore a favourable symptom in the present case, a proof that the organism is successfully endeavouring to bring its metabolism back to its original healthy condition. Both investigators found a remarkably high acidity of the urine, and both alike observed that the fall in the acidity of the urine which occurs normally after a hearty meal was completely absent in our patient. After dinner the urine is normally either very faintly acid, neutral, or even alkaline. Wroblewsky, however, on the contrary, found an acidity of from 18 to 20 per cent. and Hofmann an acidity even reaching 25 per cent. The difficult micturition after food, which was frequent with the woman, no doubt depended on this high acidity of the urine. The explanation of the fall in the acidity of the urine after food is to be sought in the increased excretion of hydrochloric acid in the gastric juice. In this case there is no production of hydrochloric acid, so there is no fall in the acidity of the urine.

The opinion expressed in my first published statement that the assimilation of the albumin of the food was normal notwithstanding the absence of the stomach, was not at that time supported by any exact determinations of the metabolism. The condition of the patient in the first weeks after the operation obviously did not permit the undertaking of such researches, tending, as they would do, to discourage variety in her diet. Wroblewsky's analyses of the fæces and urine yielded remarkably small amounts of nitrogen and consequently indicated an abundant absorption of albumin. Microscopical examination of the fæces showed not the slightest departure from the normal condition. Moreover, there was the fact that the patient had gained remarkably in weight since the operation. Hofmann has now by an exact estimation shown the results of the absence of the gastric digestion on the assimilation of the albumin of the food. His first series of researches extended over six days and was commenced on Jan. 4th, 1898, four months after the operation. On the first day 1400 grammes (50 fl. oz.) of milk and 5 rolls were given and on the five following days 1540 grammes (55 fl. oz.) of milk, together with the same number of rolls. The fæces corresponding to this diet were of normal aspect, firmly moulded, and appeared in from thirty-six to forty-eight hours after eating. From the nitrogen values obtained for it, which varied between 0·7 and 1·4, and were therefore quite within normal limits, it resulted that "the assimilation of the ingested albumin was very good and that the absence of the gastric juice which acts on albumin made no difference to the assimilation." Hofmann remarks further that "during the six days for which the research was continued the ingestion and excretion of nitrogen did not exactly balance one another, as would have been the case with this number of heat units in a healthy person of corresponding weight. There was a daily retention of nitrogen varying from 0·1 gramme to 1·14 gramme, amounting on the whole to 4·25 grammes and equivalent to 26·5 grammes of albumin and 725 grammes of lean meat (Muskelfleisch). During the six days occupied in the research no increase of weight could be satisfactorily recognised, so that this retention of nitrogen is to be explained as an accumulation of the circulating albumin, an improvement in the condition of the blood which had been greatly impoverished by the previous long-continued cancerous cachexia. The daily retention of, on an average, 0·53 gramme of chloride of sodium gives additional support to the opinion that an increase in the circulating albumin is taking place."

The second investigation of the patient's capacity for assimilation lasted nine days and was carried out a month and a half subsequently with a mixed diet, the daily allowance of which was as follows: 1200 grammes (43 fl. oz.) of milk, 150 grammes (5 fl. oz.) of bouillon with egg, 80 grammes (3 oz.) of fried sausage, 150 grammes (5 fl. oz.) of gruel, 2 eggs, 4 rolls, 20 grammes (¾ oz.) of butter, and 65 grammes (2½ oz.) of whortleberries. In this instance also the mixed diet proved itself to be very well assimilated, for the smallest amount of nitrogen excreted with the fæces was 0·41 gramme nitrogen in 11·6 grammes fæces, while the largest was 2·06 grammes nitrogen in 49·9 grammes fæces. These figures being quite normal demonstrate that, so far as this question is concerned, the absence of the functions of the stomach does not make itself seriously felt. Furthermore, an investigation of the conditions of assimilation of the fatty part of the food confirms my previous statements. With a daily consumption of fat averaging 84·5 grammes there was a daily excretion of fat averaging 4·64 grammes; the loss was therefore only 5·5 per cent. of the whole, so that the assimilation could not have been better under any circumstances.

Hofmann draws from these results the practical inference that it is a mistake to allow no more than the least possible quantity of food to patients suffering from chronic disease of the stomach, and that the failure of nutrition and strength manifested by such patients is in most cases brought about by the regimen to which they are subjected even more than by the disease itself. With regard to this inference it should be remarked that it can only find practical application when it is at the same time possible to shut off the affected organ from the digestive tract. To give the quantity of food ordinarily taken would hardly be an advantage, for it produces considerable mechanical irritation, especially in certain cases which have to be regarded from a therapeutic point of view, and it often will not pass from the stomach into the remainder of the digestive canal.

Although the previous daily examinations of the urine and fæces for putrefaction products enabled me to give a reply in the negative to the much-debated question whether the hydrochloric acid of the stomach has any influence or not over the processes of putrefactive decomposition of food products in the intestine, the more elaborate investigations made by Hofmann at a later period were nevertheless valuable to me. The food given to the patient during the earlier observations was selected with a definite object and was not particularly liable to undergo putrefactive changes. Hofmann ascertained the amounts of A and B sulphuric acids in the urine for fifteen consecutive

[1] Hofman: Observations on Metabolism after Total Resection of the Stomach, Münchener Medicinische Wochenschrift, No. 18, 1898.

days. The patient's food consisted principally of milk, different kinds of animal food, three or four eggs, soup, gruel, and rolls; the quantity of milk was from 500 c.c. to 700 c.c. (17½ fl. oz. to 25 fl. oz.) and that of animal food from 100 to 150 grammes (3½ oz. to 5 oz.). On the third and fourth days she took 300 c.c. (10½ fl. oz.) of kephir (partially fermented milk) instead of 300 c.c. of ordinary milk in order that the subsequent fall in the ethereal sulphates might be watched. From the sixth day onwards she took in addition 50 grammes (1¾ oz.) of old Gervais cheese and afterwards about 30 grammes (1 oz.) of Liebig's peptone, substances abounding in putrefactive germs, albumin, and casein, from which a certain amount of increase in the putrefaction processes was to be expected. Finally, 20 grammes (¾ oz.) of butter were added, for with fatty diet there is an enhanced excretion of ethereal sulphates. From the comparison of his results it appears that the daily value of the ethereal sulphates varied between 0·036 gramme (on the first day of taking the kephir) and 0·165 gramme (on the second day of taking the peptone). By these figures it is proved that the entire absence of the gastric juice, charged as it is with hydrochloric acid, is without any influence on the extent to which putrefactive decomposition is developed in the intestine, since the values found for the (ethereal) sulphuric acid are less than those which occur normally (about 0·20 gramme). Hofmann concludes from this that it is useless to prescribe hydrochloric acid with the view of disinfecting the intestine, although this plan is often proposed and carried out in practice, for even the hydrochloric acid abundantly poured forth by the stomach, the quantity of which is not approached by the amount ordinarily prescribed, may be entirely absent without any increase in the putrefactive changes in the intestine.

I am indebted to Dr. Otto Veraguth of Zürich for a further series of valuable researches on theoretical and practical points, which researches he has in the kindest manner handed over to me for publication. In the year 1896 there appeared an article by Dr. Tschlenoff[2] the title of which was "Der zeitliche Ablauf der Stickstoffausscheidung im Harn nach einer Mahlzeit" (The Successive Stages of the Excretion of Nitrogen in the Urine after Food), and in which it was shown, contrary to what was previously supposed, that the excretion of nitrogen after the taking of food rich in albumin could not be represented by a line gradually rising and then falling, but that the curve of hourly elimination contained *two* maximum points, the first from two to four hours and the second from five to seven hours after the taking of the food; the first maximum is followed by an obvious decline and a subsequent rise to the second maximum. Experiments with peptonised food brought the first maximum very plainly into view. Dr. Tschlenoff believes that these facts must be explained on the assumption that the quick rise of the curve in the first two or three hours is due to absorption in the stomach and that its decline in the fourth and fifth hours is to be referred to the passage of the acid chyme into the intestine, where it is neutralised and digested, whilst the second rise of the curve is in connexion with the active absorption in the intestine.

From these results Dr. Tschlenoff drew the following conclusions: "Nitrogen determinations made every hour after taking food give us some insight into the conditions of digestion and absorption in the stomach and intestine respectively, since we can from inspection of the nitrogen curve recognise the separate action of the stomach and the intestine. The curves yielded by animal food and by peptone differ essentially from one another, for the peptone curves are almost entirely curves of absorption in the stomach. If the processes of digestion and absorption which take place in the stomach are disturbed the nitrogen curve loses its regular contour. Hourly determination of the nitrogen in the urine after the ingestion of ordinary animal food and of peptone may under certain circumstances be employed as a means of diagnosis in diseases of the stomach."

The importance of these questions induced Dr. Veraguth a short time afterwards to repeat and extend Dr. Tschlenoff's experiments, and the results obtained by him have appeared in the *Journal of Physiology*[3] under the title "The Effect of the Meal on the Excretion of Nitrogen in the Urine." In his first group of experiments Dr. Veraguth examined the urine every hour after the taking of food containing variable amounts of albumin. Without being affected by this last-mentioned circumstance the curve always assumed such a form that on an average the first maximum occurred in from two to five hours and the second in from four to eight hours. His experiments therefore confirm Dr. Tschlenoff's results, but Dr. Tschlenoff's explanation that the first maximum corresponds to an absorption of the albumin of the food by the stomach necessitated at the least a following up of the question according to a modified plan. Moreover, his opinion with respect to the amount of the absorption of albumin in the stomach is not in harmony with current scientific views. In a second group of experiments an attempt was therefore made to arrive at an exact analysis of the first rise of the curve by causing the person to pass urine at shorter intervals of about half an hour or a quarter of an hour after taking food containing amounts of albumin which varied from time to time, the underlying idea being that secondary (*reflectorische*) processes occurring in the body after food were very probably responsible in part for the form of the urea excretion curve. Harley's experiments with Mosso's ergograph have proved that there is an immediate increase of muscular power after taking food. Might not, therefore, the taking of food equally well give a secondary impulse to the metabolism as a whole and consequently to the excretion of urea and nitrogen in the urine? This conjecture made by Dr. Veraguth found its confirmation in the second group of experiments, but only to the extent that a quarter of an hour or half an hour after taking food a third rise in the curve was discovered, not so high as those already mentioned, but very constant. This rise can hardly be regarded as other than secondary, but the question whether this mysterious second elevation of the curve corresponded to absorption of albumin by the stomach was nevertheless as far as ever from being answered. Control experiments in a person without a stomach were therefore exceedingly valuable for the solution of this question.

Dr. Veraguth's description of his investigation has been placed at my disposal in the most disinterested way and may be re-stated here with a few abbreviations. "The patient passed urine at 6 A.M.; the urine was measured and a sample preserved. At 7 A.M. there was a second emptying of the bladder, measuring of the urine, and setting aside of a sample. Then the patient took her breakfast, consisting of eggs, rolls, and milk. At 8 A.M. she passed urine again, and so on until 12 noon, and on a subsequent occasion until 2 P.M. The observations were not at first carried further because the experiment, which in itself was harmless even for this particular individual, might have been made serious by longer fasting. It was only on the concluding day (May 20th, 1898) that they were continued to 4 P.M., which could be done without risk on account of the patient's remarkably good condition. In the intervals she drank tea without milk whenever so disposed in order to relieve her thirst and promote diuresis. Half-hourly or quarter-hourly collections of urine could not be arranged for as the patient was not equal to such frequent urination. The urea was determined by the Knop-Hüfner nitrogen method,[4] which consists in decomposing the urea into carbon dioxide, water, and nitrogen, by shaking a measured quantity of urine with solution of sodium hypobromite. The carbon dioxide and water are immediately absorbed by the solution, while the nitrogen remaining free is measured and is multiplied by the coefficient 0·002683 in order to calculate the urea. The volume of the nitrogen was not reduced to 760 mm. (30 in.) atmospheric pressure and 0°C. (32°F.) temperature, as the analyses were made within a moderate compass of time and therefore without important variations in the pressure and temperature. Dr. Tschlenoff has laid stress on the applicability of the method to these experiments, but as a matter of fact it is, when taken by itself, very inexact; in the present case, however, the object was only to obtain relative values—namely, the comparison of the quantities of urea from one hour to the next.

Observation I. (Jan. 29th, 1898).

Time.	Amount of urine.	Nitrogen.	Urea.
6 A.M. (night's urine). (Then a cup of tea without milk.) ...	c.c. 600	c.c. 8·0	Grammes. 13·8
7 A.M. (breakfast: 2 eggs, 1 roll, milk)	—	—	—
8 A.M.	65	10·0	1·74
9 A.M.	100	1·8	0·48
10 A.M.	300	3·8	3·06
11 A.M.	100	6·0	1·00
12 NOON	45	8·0	0·94

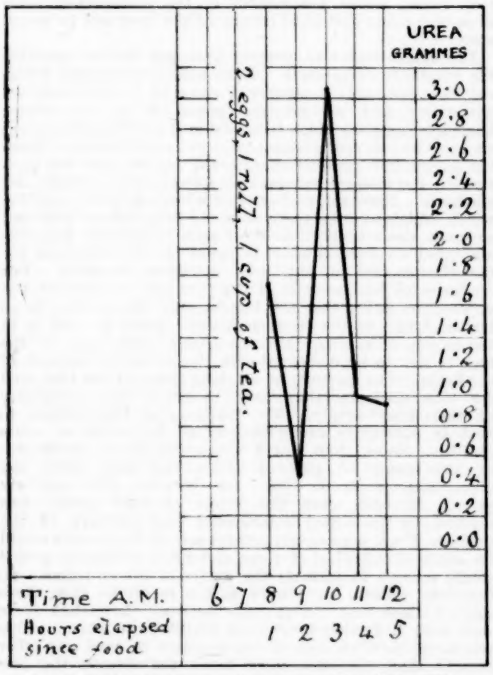
[2] Correspondenz-Blatt für Schweizerärzte, 1896, No. 3. Dr. B. Tschlenoff of the Medico-Chemical Institute in Bern.

[3] Vol. xxi., Nos. 2 and 3, March 17th, 1897.

[4] Practically identical with the Russell-West process.—*Translator.*

With a view to this experiment the patient drank a cup of tea at 6 A.M. in order to excite diuresis. At 7 A.M. she had her breakfast, consisting of two eggs, one roll, and about one-third of a litre (12 fl. oz.) of milk; it therefore contained a tolerably considerable quantity of albumin and casein. The night's urine, voided at 6 A.M., measured 600 c.c. and yielded 8·0 c.c. nitrogen, which corresponded to 13·8 grammes urea. Unfortunately the patient was not able to micturate again at 7 A.M., so that the next sample (collected at 8 A.M.) contained the nitrogen excreted immediately before and after the food. This, however, did not seem to have any important effect in vitiating the course of the curve, for it continued to descend during the next hour—the second since the food—the urea falling to 0·48 gramme. After that, however, in the third hour there was a sudden rise of the urea to 3·05 grammes, in the fourth hour a fall to 1·00 gramme, and in the fifth hour a further fall to 0·94 gramme. In other words, a patient whose stomach has been removed exhibits three hours after a meal a very decidedly increased excretion of nitrogen, followed by an equally obvious decrease, a sequence which appears to be usually the case also in normal individuals. (See Fig. 1.)

FIG. 1.



Curve showing hourly excretion of urea (Jan. 29th, 1898). Apparently the words "1 cup of tea" ought to be read as on the 6 A.M. line, and the words "2 eggs, 1 roll, milk" as on the 7 A.M. line.

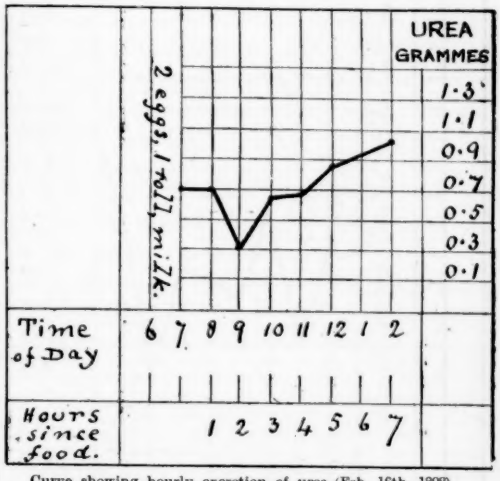
An account of Observation II. is not obtainable, as circumstances unfortunately prevented the work from being completed.

Observation III. (Feb. 16th, 1898).

Time.	Amount of urine.	Nitrogen.	Urea.
6 A.M.	115	?	?
7 A.M. (Breakfast: 2 eggs, 1 roll, & 400 grammes milk)...	105	2·5	0·70
8 A.M.	60	4·5	0·72
9 A.M.	600	0·2	0·33
10 A.M.	300	0·8	0·65
11 A.M.	100	2·5	0·67
12 NOON	80	3·8	0·81
1 P.M. (Tea)	—	—	—
2 P.M.	100	4·0	1·07

The food in this case was the same as in the preceding one, and in it similarly there was after the second hour a sudden change of direction in the previously falling curve, which did not fall after that period, but maintained itself at the same level during the fourth hour, subsequently rising until the observation was concluded at 2 P.M. Unfortunately the patient did not micturate at 1 P.M., so that whether this rise was really uninterrupted or not must remain an open question. (See Fig. 2.)

FIG. 2.



Curve showing hourly excretion of urea (Feb. 16th, 1898). Apparently the words "2 eggs, 1 roll, milk" ought to be on the 7 A.M. line.

It will be seen that although the amounts of albumin ingested in Observations I. and III. were similar, yet the curves show that in each case taken by itself very different quantities of nitrogen were reported—a discrepancy which has been pointed out in previous investigations under normal conditions of the alimentary canal. The essential thing, however, to be kept in mind just now is the fact that in this case, exactly as in a normal individual, the elimination of nitrogen undergoes a notable increase two hours after meals.

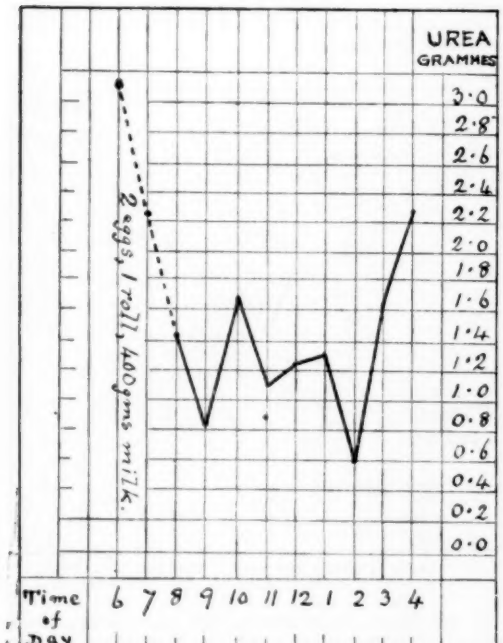
Observation IV. (May 20th, 1898).

Time.	Amount of urine.	Nitrogen.	Urea.
6 A.M.	100	11·5	3·08
7 A.M.	80	11·4	2·23
8 A.M.	65	8·1	1·41
9 A.M.	75	4·2	0·84
10 A.M.	105	6·0	1·68
11 A.M. (One cup of tea.)	80	5·3	1·14
12 noon	90	5·1	1·23
1 P.M.	70	7·2	1·32
2 P.M.	110	2·2	0·59
3 P.M.	135	4·5	1·63
4 P.M.	170	5·0	2·23

The food taken on that day agreed exactly with that which was taken during the previous observations, consisting as it did of two eggs, one roll, and 400 grammes (14 fl. oz.) of milk; at 11 A.M. the patient drank a cup of tea. Urine was passed hourly till 4 P.M. It might perhaps be thought that by reason of their too short duration the foregoing observations had not given absolutely unequivocal curves, for the increase of urea appearing in them from two to three hours after food ought, in an individual who had no stomach, to correspond not to Dr. Tschlenoff's first maximum but to the second maximum, which he supposes is due to absorption in the intestine. However this may be the present curve leaves nothing to be desired in respect of clearness, that is, in respect of agreement with the curves obtained under normal conditions. In

the third hour after food it rises to a first maximum, then sinks with oscillations to the seventh hour, and in the eighth and ninth hours rises suddenly to a second maximum. In other words, it is an excellent copy of Dr. Tschlenoff's curve. (See Fig. 3.)

FIG. 3.



Curve showing hourly excretion of urea (May 20th, 1898). Apparently the words "2 eggs, 1 roll, 400 gms. milk" ought to be read as on the 7 A.M. line.

This patient's case must therefore be taken as proving with absolute certainty that the successive stages of the excretion of nitrogen in the urine after food are quite independent of gastric digestion, because removal of the stomach from the digestive tract does not cause the excretion curve to deviate in any way from those which are obtained under normal conditions.

Notwithstanding these extremely instructive observations on our patient, it unfortunately still remains an open question which organs give the curve of nitrogen excretion its characteristic form. This much, however, is certain, that the stomach is not responsible for it, that Dr. Tschlenoff has not given the right interpretation to his very interesting results, and that hourly determination of the nitrogen in the urine after taking meat and peptone is not to be relied on as a means of diagnosis. It is to be hoped that Dr. Veraguth's indefatigable exertions in this field of inquiry may very soon supply incontestable scientific evidence to confirm his hypothesis relative to the excretion curve of nitrogen.

Postscript by Dr. Schlatter.—After the completion of the foregoing observations I received news of another successful case of total extirpation of the stomach. Induced by the account of my case which appeared in the *Medical Record* (New York) of Dec. 25th, 1897, Dr. Charles Brooks Brigham of San Francisco on Feb. 24th, 1898, removed an entire stomach affected with carcinoma, the patient being a woman sixty-six years of age.[5] He succeeded in uniting the duodenum to the œsophagus. Seven weeks after the operation the patient's condition was in every way satisfactory.

[5] Case of Removal of the Entire Stomach for Carcinoma; Successful Œsophago-duodenostomy; Recovery. Boston Medical and Surgical Journal, May 4th, 1898.

A CONTRIBUTION TO THE SURGICAL TREATMENT OF PHTHISIS OF THE APEX.

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THAT phthisis may be treated surgically has been the hope of many besides the writer of this article; and when the natural history of the disease is studied, when its physical signs are considered, when some of the cases which have been seen are recalled to mind and the subject is illuminated with the light of clinical experience, and when the lessons of the post-mortem room are learned aright, it is felt that the hope is not altogether unjustifiable. For above all things phthisis is a curable disease. One is too apt to look upon it as a hopeless affection, less to be dreaded tha cancer perhaps but for its ultimate result equally to be feared. But not only does phthisis respond to treatment as readily as most other affections, but much more readily than many, whilst the records of the post-mortem room show that many phthisical lesions of the lung end in actual cure.

The achievements of surgery have put beyond question the curability of tubercle. Even diffuse abdominal tuberculosis is curable in a number of cases by a simple surgical operation; and no message comes to us in clearer language than that which tells us that it is to local treatment we must look for our greatest triumphs over tubercle. From the joints, the cervical glands, the viscera, and the peritoneum the message comes with unwavering certitude and emphasis. Moreover, we have in the lungs a local condition which explains not only why so many lung lesions heal and so many cases of phthisis show such remarkable improvement, but a condition which is one of the best auguries for the after-success of any local operative measures. For readiness to heal wounds of the face are pre-eminent, the explanation being that the blood-supply of the face is so lavish—lavish in the freedom of anastomosis as well as in the supply of vessels. But the lavish blood-supply of the face is not to be compared with the exuberant network of the lungs. The tendency of all lung lesions is to heal, and for that tendency they have to thank the prodigality of their blood-supply. The tendency of lung lesions to heal is constantly exemplified in all but cases of acute phthisis. Some time ago I wrote the death certificates of two cases of phthisis which had been under my observation more or less for between five and six years. In each case the whole of that period was marked by periodical disablement and recovery of the patient. From some cause, perhaps a chill, the patient would be confined to his bed or room and after a variable period would emerge to take up the duties of life as before. So complete, indeed, were some of the recoveries from these exacerbations that the patients believed themselves quite well until a further breakdown disillusioned them. This characteristic of phthisis is too common to need any other remark than that the more acute the disease the less marked are the remissions or, as I prefer to call them, the attempts at healing. But for this tendency on the part of the lung to heal few cases of phthisis would survive many months, and hæmoptysis would be one of the most fatal and dreaded events. But when on examining a case of phthisis we find flattening of the chest-wall from retraction of the ribs and interspaces, we know that whatever may be the destructive process which is going on within, a degree of healing—not perhaps sufficient to cure the disease and bring the case within the category of the cured, but enough to postpone the fatal event and give the patient a few more years or months of life—is taking place; for sinking of the chest-wall is the inevitable result of the shrinking of the lung. A destructive and a reparative process are going on side by side. On the one hand there is loss of substance; on the other hand, healing and contraction of the cicatrix, if I may be allowed to use the word in this connexion. That the process is as much reparative as destructive is evident from the extreme contraction sometimes seen. In the case of a woman, aged twenty-nine years, who came to my out-patient room on Feb. 26th, 1895, the whole of the upper part of her right chest in front above

the fourth rib was shelving and flattened. Over the whole of the area indicated quite up to the sternum was a deep depression, the sternum being very prominent and the joint between the body and the manubrium quite pointed. This area was quite dull, and even on deep inspiration there was very little movement in it. Except at the extreme apex where the breathing was tubular and amphoric, the respiratory sounds were very faint, with prolonged expiration. The patient gave a history of three years' illness, and it was not the right lung which caused her to seek aid, but the outbreak of phthisis in the left. I saw this patient on only one other occasion, and I assume that the trouble in the left lung soon incapacitated her from further attendance, notwithstanding the desperate attempt made by the right lung to heal and cure itself.

Having learnt, on the one hand, that lung lesions heal and, on the other hand, that they make attempts which end almost in success, we shall not be surprised to learn that surgeons have endeavoured to give them additional help by applying to them principles successful in other parts of the body. The measures adopted may be divided into excision of portions of the diseased lung and opening and draining of cavities.

Dr. Lowson of Hull has excised the right apex of the lung of a woman, aged thirty-four years,[1] and the patient recovered with a sinus. I am not aware that he or anyone else has repeated the operation in the human being, and many additions to our experience and knowledge of pulmonary surgery will have to be made before such an operation, with its obvious risks, can find a place among orthodox surgical procedures.

And when we turn to the treatment of phthisical cavities we are met by difficulties which, even at the present time, cannot be said to have been surmounted. In theory beautiful and simple, the attempt to open and drain a pulmonary cavity is in practice difficult and uncertain, for the determination of the character of an excavation of the lung must be as precise as the definition of its position must be exact. It may answer the requirements of the physician to put his finger on the chest wall and say the cavity lies here. Whether it does or not no harm is done, and the efficiency of his remedies will not be jeopardised. But a mistake of half an inch in the location of a pulmonary cavity may foil a surgeon and baffle all his efforts; and even if he hit the excavation he may find that he has opened not a cavity, but a honeycombed space which it is impossible properly to deal with in the cramped narrow space within which he has to conduct his manipulations, even though some of the ribs may have been removed. If a cavity is near the surface, if it is a cavity and not a molecular breaking down of the lung, if its limits can be clearly defined and the information gained by physical examination can be confirmed by the use of the exploring needle, it may be within the scope of successful surgical interference. But few phthisical cavities realise this ideal condition. More than one attempt to reach phthisical excavations at the apex are recorded in the medical journals with barren results, for it would seem that the conduction of sounds through the lung has caused physicians to locate and operators to cut down upon places where no cavity was. Moreover, in most phthisical cavities the exploring needle gives no help; the ribs are an ever-present hindrance, and notwithstanding the admirable results of Mr. Godlee, I think we may sum up this section of our subject with the conclusion that the treatment of phthisical lesions of the lung by drainage is an attempt to attain that which with few exceptions has thus far proved to be the unattainable.

On one point, however, I have no doubt, and that is that if drainage of cavities of the apex is to be successful it will have to be undertaken, not from the front, as has hitherto been the case, but from behind. If an incision be made above the scapula over the most prominent part of the ribs portions of the second and third ribs are easily removed, and the finger finds itself in a cavity the roof of which is formed by the first rib with the pulmonary apex below it. This is the most direct and sure route to the apex of the lung. But comparatively easy as the operation is on the dead body it is, from the depth and confined limits of the wound, impossible in the living subject to deal with the affected lung. I have twice attempted to do so without success. We see, therefore, that the help the surgeon has been able to give to phthisical lungs is insignificant compared with the inherent power of the lung to help itself. Drainage has been a comparative failure, and the removal of a diseased portion of lung is not an operation which can be considered within the practicable bounds of accepted usage. It is evident, therefore, that any new procedure must be upon fresh lines.

We have seen that not only can phthisis be cured, but that it makes prodigious attempts to cure itself. Let us try to discover—if we can—why it so often falls just short of doing so. Why does the lesion, surrounded as it is with an abundant supply of nutritive material, not heal? I venture to suggest that the reason, the reason of all, is a mechanical one. The damaged and diseased lung shrinks as far as it can, drawing in the ribs and distorting the chest in the manner which is familiar. If the lung were surrounded with a wholly fleshy case instead of a rigid bony framework we should have many more examples of healed phthisical lesions to add to those found in the post-mortem room. The lung becomes adherent to the chest wall and the unyielding ribs hold the walls of the cavity apart. We see nature—I use the word for want of a better—doing her best, the lung contracting as far as it can and the phthisis becoming for the time arrested. Some cases, such as that of my out-patient previously referred to, would heal but for the ribs, and I venture to think that this is an instance where we ought to return the lead which nature gives us and endeavour to place the lung in such circumstances that the healing process may be carried to the fullest possible extent. I propose, therefore, that portions of ribs should be removed both back and front from the upper part of the chest. Two soft, yielding surfaces are formed with a loose length of rib between. The area from which the portions of rib are taken is now free to follow the contracting and healing lung, whilst the floating pieces of rib can be drawn bodily towards the spine or in any other direction that the shrinking lung takes. They are, in fact, loose fragments lying upon the soft tissues instead of, as before, part of a hard framework supporting and holding the soft, fleshy structures. I have now done the operation in three cases and have suggested it in a number of others, but when the almost inevitable improvement has begun most of the patients have been glad to shun the bugbear of an operation, being buoyed up with the fallacious hope that they were getting better. Three patients gave their consent to operation and afterwards withdrew it, and in the case of others disease in the other lung supervened before I saw my way to make definite proposals for the operation.

CASE 1.—A man, aged sixty-five years, was admitted to the Huddersfield Infirmary on July 7th, 1893. He was a thin, spare man with a fresh-looking, healthy complexion. Nine months previously he caught a cold and had had a cough, with spitting of thick, yellow phlegm, ever since. For some years he had been short of breath. There was no pain. He spat most freely from 6 to 9 A.M. There was no hæmoptysis, but he had lost weight during the last nine months, whilst the appetite had been very poor. With regard to the chest the right side was flattened, especially in the infra-clavicular region. Expansion on both sides was poor, especially on the right. On the right side, except over the second rib in front, there were impaired resonance, especially at the apex, with feeble breath sounds, and over the middle and lower lobes coarse crepitations. In the regions of the second rib the resonance and vocal fremitus were increased. On the left side there was vesicular breathing throughout, with marked and prolonged expiration. The heart was healthy. On July 10th the anterior portions of the second and third ribs were removed through an opening in the pectoralis major along the course of the second rib. A drainage-tube was inserted from the axilla. Portions of the same ribs were removed from behind through an oblique incision at the posterior and upper part of the upper aspect of the chest. The patient bore the operation well and the drainage-tube was removed on the third day. He was discharged on Nov. 3rd, four months after his admission. His long stay in hospital was caused by the continued suppuration of the cavity below the pectoral muscle. No dressing seemed to check the too abundant discharge and the patient would not for a long time consent to a further surgical operation, and when at length he did so and the wound was opened up a piece of gauze, which had found its way into the wound cavity unperceived, was found. On its removal the wound slowly healed. On leaving the hospital he was ½ lb. heavier than on admission. He attended periodically

[1] Brit. Med. Jour., June 3rd, 1893.

as an out-patient till July, 1895, when from increasing weakness he was unable to make the journey of 10 miles to the hospital, with a walk of over 2 miles between his home and the village station. On Nov. 6th, 1895, two years after he left the hospital, I saw him at his home. He looked greyer and thinner. The pulse was 84 and of fair strength, the respirations were 27, and the temperature was 98·9° F. He was spitting thick, muco-purulent, stiff phlegm, in which there was no blood. He slept badly and coughed a good deal, but it was not the cough which interfered with sleep. As to his chest, immediately below the right clavicle was a quadrate gap measuring 4½ in. across and 4¾ in. from above downwards. When he inspired this gap did not move at all. The supra-clavicular space was sunken and dipped down behind the clavicle obliquely—almost perpendicularly if he stood up—1¾ in. The hand sank behind the clavicle into this hollow in a remarkable manner. Near the shoulder the gap below the clavicle was no bigger than on the opposite side; but, unlike the other side, on which the rounded barrel of the chest at once came to the front, the gap sank till near the sternum. The movement throughout this lung was very small indeed, and in the gap there was none at all. The first rib could be felt most perceptibly bordering it, with a rounded prominence at the extreme inner and upper corner. It was difficult to decide whether there had been renewal of bone after the removal of the portions of ribs. The whole floor felt hard, but there was no continuation of any ribs from either of the cut ends. The pectoralis major seemed adherent throughout, but this was probably due to the long-continued suppuration from the retained dressing and ought not to occur in another case. The depth of the cavity, ascertained by measuring from a sheet of stiff paper laid across it, was exactly 1 in. Percussion over the whole of the upper part of the right lung gave a dull note. There was increase of fremitus as well as of vocal resonance, especially in the middle of the cavity. Behind, the right lung was completely dull above the spine of the scapula, and below the resonance was much impaired. Râles and rhonchi were heard over the lower part of the right lung, but above the level of the lower margin of the parietal depression no breath-sounds could be heard. The left lung was hyper-resonant except at the extreme apex, where it was dull, and bronchial râles were heard pretty generally all over it; in addition there was cavernous breathing for a space of three fingers' breadth below the dull area at the apex. The patient died on May 13th, 1896, having lived six weeks short of three years after the operation. As I did not hear of his death till several weeks afterwards no post-mortem examination was possible. Nor had I the opportunity to take a plaster cast of the condition of the chest, for the patient would not permit me to do so during his lifetime. I regret this the more as words cannot convey an adequate impression of the remarkable condition to which it attained. I can only say that neither before nor since have I seen anything approaching it, the depth of the gap and its absolute immobility during respiration being scarcely conceivable.

CASE 2.—A girl, aged fifteen years, was admitted to the Huddersfield Infirmary on Dec. 11th, 1896. Four months previously she had vomited "enough blood to fill a two-pint jar" and was in bed for a month. Since then she had had night sweats, loss of flesh, and cough without much expectoration. Her father was dead, but the patient had not been ill before the present illness. There was dulness in the left infra-clavicular region, with coarse râles over the whole of the left side and marked tubular breathing near the apex of the left lower lobe behind. Both apices expanded indifferently, whilst the respiration generally was markedly abdominal and the movement of the chest on respiration was much impaired. At the inner end of the right clavicle cog-wheel breathing with a few moist râles were heard. On Dec. 13th portions of the four upper ribs were removed. An oblique incision was first made beginning between the spine and the upper part of the scapula and with much difficulty portions of four ribs were removed. The pleura was opened several times. Through an incision along the lower margin of the pectoralis major portions of the second, third, and fourth ribs were removed from the front of the chest. The patient bore the operation badly and on the second day incessant vomiting came on and she died the same day. No post-mortem examination was allowed. In this case I think I unwittingly took away a portion of the first rib posteriorly and probably injured some of the important nerves passing over it.

CASE 3.—The patient was a man, aged forty-seven years. He had been very unsteady, had had influenza three years ago, and had not been well since. For a year he had been attending as an out-patient. His shoulders were rounded and he complained of cough and loss of flesh. The left side of the chest was flattened in front, with dulness from the supra-clavicular region to the cardiac area. Behind there was dulness on the left side from the seventh cervical to the fourth dorsal vertebra. Over the dull area the breath-sounds were diminished and there was cog-wheel respiration over the lower part of the left lung and at the right apex. On March 29th, 1897, ether was administered and through an incision along the lower border of the pectoralis major portions of the second, third, and fourth ribs were removed from the left side of the front of the chest, the ribs being divided as far back as possible in the axilla. The patient took ether very badly and the removal of portions of rib from behind was deferred. There was a good deal of pain after the operation, and on the following day the temperature went to 104·4° F., but the wound when dressed the following morning looked well and the patient complained of nothing but a somewhat troublesome cough. On April 5th he began to ramble at night, signs of pneumonia at the left base subsequently developed, and he died on April 12th. At the post-mortem examination 3 oz. of pus were found in the left pleural cavity. The left lung was adherent throughout and its lower lobe was a mass of red hepatisation. The wound cavity was unhealed and much shrinking of the lung had taken place already.

In the last two cases the anterior incision was made along the lower border of the pectoralis major and the portions of ribs were removed from beneath the muscle. This, however, is a more difficult plan than that of cutting through the muscle straight down to the rib. Nor should I again begin at the posterior aspect of the chest. The ribs approach very close to each other here and it is difficult to apply either cutting forceps, rib shears, or saw in the narrow interspaces. After the ribs are divided in front they move much more readily and the insertion of the blade of the forceps or shears is facilitated. The death of the patient in Case 2 was, I think, attributable to the difficulties encountered by attempting to deal first with the posterior aspect of her chest. She was a delicate girl, not well fitted to bear an operation, which proved unexpectedly tedious as well as dangerous from the admission of air into the pleural cavity and probable interference with important structures in the neck. In subsequent cases these dangers ought to be, and can be, avoided. The patient in Case 3, who died a fortnight after the operation, was a broken-down, dissolute man, who was cast off by his friends. I had suggested the operation to him nearly a year before he had it done. He was not a good subject for any operation, and I did it at his own request, after explaining to him that I could not promise that he would survive the ordeal.

In the case of the other patient (Case 1) there can be no doubt that the operation prolonged his life, whilst the local effects upon the chest and its contents show that the theoretical aim of the operation is capable of practical attainment. After leaving the infirmary the man went back to his home and received only the attentions to be obtained in the home of a cottager in the humbler walk of life. The case was one of fibroid phthisis and not one of tuberculosis, and whilst it may be premature to draw the conclusion that a case of tuberculous phthisis would show so marked a degree of contraction after removal of portions of ribs the case proves that where fibrosis is going on the ribs are an obstacle which will check its fullest possible development. And when we remember how large a share fibrosis has in the arrest of chronic tuberculous phthisis the result attained in the case of my patient suggests that a method lies before us of making the degree and effects of fibrosis still more complete and beneficent. By allowing this process to have fullest scope we strangle the disease by cutting off its blood-supply, and the operation may be compared in its mode of action to the treatment of a growth by ligaturing the vessels. Moreover, the effects of the check to the blood-supply of the lung and the physiological rest which the affected area receives are augmented by the state of functional inactivity to which the area of lung is reduced. The portion of lung, in fact, ceases to be of any use as lung, is brought into a carnified condition, and merely fills the space of the body and chest which it occupies. No attempt whatever is made to touch the lung. The operation is entirely extra-pleural.

It is an operation which can be done deliberately and all the manipulations are conducted within sight. Removal of ribs has been practised for long-standing empyema, and in suitable cases is a useful procedure, though the *rationale* of the operation in phthisis and empyema is not quite similar. In empyema portions of ribs are removed from the wall of the cavity so that the chest may meet the pleural surface of the healthy lung and the lung ultimately re-expand. In removal of ribs for phthisis the object is to promote the contraction of an already cicatrising lung. When air is admitted to the pleura the lung as a rule collapses and carnifies. The lung may be compared to an indiarubber cricket-ball permeated with air and constantly tending to return to its solid state. If it were not for the ribs the act of respiration and the pressure of the atmosphere would reduce the lung to a semi-solid mass. And we know from cases of atelectasis in the newly born when once the process has begun how quickly it goes on to a fatal issue. When adhesions have obliterated the pleural cavity—as they do in most cases of phthisis—removal of the ribs brings this atmospheric pressure to bear almost directly upon the lung beneath, and in addition to the contraction of the lung itself we have the additional aid of atmospheric pressure to ensure the collapse of any healthy lung which may be present around the focus of the disease.

It is not necessary to touch the first rib, and possibly the fourth may be left. Phthisis rarely begins at the extreme apex of the lung, and the shrinkage which will take place after the removal of portions of the second, third, and fourth ribs will be enough for the purpose. In the successful case the apex has fallen in at least one inch. Now an inch of contraction of the apex is worth two or three inches over the middle lobe. If in this narrow strip of lung we can get an inch of contraction—in young subjects with more supple tissues we ought to get more—we place the lung in those circumstances which are favourable to the fullest possible measure of the curative contraction.

Phthisis is usually spoken of as most commonly occurring at the apex of the lung; in other words, at the upper part of the upper lobe of the lung. In this connexion it is important to remember the wide area of the upper lobe which comes to the front. The right upper lobe in front fills the space between the clavicle and the diaphragm, whilst the upper lobe of the left side dips down for a very considerable distance into the axilla. We are apt on hearing the physical signs of phthisis extending more or less generally over the front of a patient's chest to assume that the whole of the lung is involved. But this is by no means necessarily the case. If we find at the posterior aspect evidence of disease only at the upper part of the lung we may be tolerably sure that one lobe only is implicated and that the disease has not spread to the body of the lung. This anatomical fact would explain those apparently hopeless cases of phthisis which, to our surprise go on from month to month and even from year to year, when according to the physical signs dominating the front aspect of the chest they ought to have been dead long ago.

Having seen, on the one hand, the help which we can give a contracting portion of lung by removal of the ribs over it, we see now that we have the very part of the lung prone to phthisis almost beneath the ribs which are most easily dealt with. Desirous to ascertain what extent of lung surface could be easily exposed I examined the body of a woman who, with the exception of a fibroid tumour and ruptured pyosalpinx, from which she had died, was healthy. The trachea having been tied 2½ in. of the second, third, and fourth ribs were removed, beginning close to the cartilages. An area of 2½ in. by 5¼ in. was exposed, reaching from the clavicle above to the lower limit of the chest below, for the upper border of the fifth rib was the boundary of the area below. The first rib projects so little upon the front of the chest as to make but an insignificant encroachment upon the exposed space. With the lung still *in situ* the outline of this space was marked upon it with a knife and the lung was then removed. It was not difficult to understand, after examining it, that the removal also of portions at the back of the apex would leave the affected part of a phthisical apex free scope to contract to an extent sufficient to permanently arrest the disease.

We have to remember that by encouraging carnification we are bringing about a condition unfavourable to the development of tubercle. It is said that tubercle rarely attacks a lung compressed by fluid in the pleura and by promoting the contraction and collapse of the affected lung we are putting the lung into a state less favourable for the development of tubercle than it is naturally, for the lavish blood-supply is a sword with a double edge—it hastens the spread of tubercle as well as supplies the nutritive material for the healing forces. On the other hand, whilst carnification and cicatrisation of the lung are destructive of tubercle by modifying the soil in which the tubercle is planted, they do not interfere with the healing process, because they are an integral part of it.

Writing three years after the date of my first operation Dr. Stuart Tidey,[2] in proposing strapping of the chest in cases of phthisis, says: "The suggestion to strap the chest in phthisis is invariably met with the objection that one of the objects of treatment in that disease is to expand the chest and so call into play portions of lung which in conditions of sub-active health take little or no share in the respiratory process. This objection does not recognise the change in the mechanical conditions of respiration produced by diseases of the lung substance. In health the respiratory capacity of the lung is commensurate with the semi-circumference of the thorax. The diseased lung may be regarded as decreased in bulk, so far as function is concerned, by the amount of lung tissue involved, and it follows that the best mechanical conditions of respiration will be secured by reducing the thoracic cavity in proportion to the reduced bulk of lung. Natural processes tend to secure these conditions, but only lead to complete cicatrisation when the disease is of a very limited extent. We then find clinically a flattening of the chest wall, dislocation of adjacent organs or hypertrophy of the opposite lung, and anatomically a cicatrix, bands of fibrous tissue, a puckered lung surface and thickened pleura—all evidences of natural effort to fill up space originally occupied by healthy active lung tissue. Natural processes are unable to overcome the mechanical obstacles to complete cicatrisation when the disease involves more than a small maximum of lung tissue. ..... The obvious indication, then, is to aid the natural processes of repair by reducing the thoracic cavity, thereby relieving them of the work of strenuous, prolonged, and often inefficient cicatricial traction. In so far, then, as the inflammatory element in phthisis is concerned rest and relaxation of the inflamed tissues seem indicated and essential to the healing process. Comparative rest of the lung may be secured by keeping the patient at absolute rest day and night, but this system has obvious disadvantages, while it fails to fulfil the local indications of rest with relaxation. The English school aims at developing the latent resources of the lung so as to compensate for the loss of respiratory surface, while placing the patient under conditions inimical to the extension of the specific element of the disease and promoting general nutrition. In extreme cases where this object has been attained one finds an immense development of the base of the lung with extensive cavitation towards the apex. ..... Such cases suggest how much better it would have been if the compensatory hypertrophy had extended inwards instead of outwards so as to have invaded and occupied the excavated region." Dr. Tidey put his views to practical effect by strapping the lung, and he relates four cases all of which were greatly benefited by his method of rendering the lung functionally less active.

His results may be fairly claimed as a recommendation of the more radical procedure of attaining the same end by removing portions of rib to allow the fullest scope for those curative processes to which Dr. Tidey refers. Dr. Tidey concludes his paper with words which deserve to be well weighed: "I do not propose this method as a cure for phthisis, but as an essential element in the treatment of that disease directed against the inflammatory lesion, an element which will greatly enhance the value of specific and climatic treatment and without which those methods will be powerless to restore an extensively damaged lung to a condition of mechanical integrity. The latter essential is now habitually left to natural conservative processes which are inadequate to fulfil it when the lesion is extensive and only does so with difficulty when it is limited."

If the removal of portions of ribs by allowing contraction of the diseased portion of lung scotches, but does not absolutely strangle, the disease, it is worthy of consideration. Many men in the colonies who have gone out phthisical are going about at this day with damaged lungs, lungs with disease still in their apices, but innocuous and quiescent, and by promoting the formation of a case of

[2] Brit. Med. Jour., March 21st, 1896.

protecting tissue around the focus of the disease we may, perhaps, bring our patients into a similar state to those who go about their daily work in the colonies with disease in their lungs. But we shall, at any rate, do much to prevent absorption; we shall make the lung almost functionally inactive at the diseased spot and do something to prevent that most common and fatal occurrence—the lighting up of disease in the opposite lung. If we do this then I think the operation is justifiable—as justifiable as, if not more justifiable, than operation for cancer, where the hope of a few more months of life is enough to justify operations much more dangerous than the removal of portions of rib. Even as a palliative the procedure is worthy of careful consideration. And it has, at any rate, one recommendation—it does not interfere with any other method of treatment, medicinal, dietetic, hygienic, or climatic. As to which are the best cases for operation and at what stage of the disease it should be done further experience can alone determine. It should certainly be avoided in those cases which are running a rapid course; the more chronic the case the better suited to the operation will it be; moreover, it should be done early, without waiting for a cavity to form. I have watched several cases with the intention of operating as soon as excavation took place, but the onset of disease in the opposite lung and the rapid failure of the powers of the patient made me give up thoughts of doing it. This has occurred sufficiently often to make me say emphatically, Operate early. I would add to this recommendation that shrinking and flattening of the apex should be an indication for the operation, so as to give the fullest scope to the reparative process that shrinking indicates. At present the operation is applicable perhaps only to a minority of the cases—a minority which increasing experience may convert into a majority.

I am bold enough to think that the possibilities of this operation are not exhausted when the patient leaves the operation table. There seems to me no reason why at the apex of the lung the operation should not be the half-way-house to intra-pulmonary procedures. Let us assume that the operation does not cure and that a mass of tuberculous deposit or a cavity remains. The operation has been done; the falling in of the chest wall shows that the apex of the lung is contracted around the disease. The pleura will be adherent, and instead of an emphysematous layer teeming with blood-vessels intervening between the surgeon and the disease, the more or less solid, carnified, and altered lung substance, riddled here and there by bronchi and bronchioles but with blood-vessels small and contracted, has to be cut into. Not only will the disease be easier to locate and find but the attempt to reach and remove disease through such a covering will more resemble an operation in any other accessible part of the body. The possibilities in this direction may be such as to bring operations such as that of Dr. Lowson within the domain of the practicable, and with the aid of increasing experience we may emulate, if we cannot surpass, some of the triumphs of abdominal surgery. With the lung in a carnified state there should be no more, if as much, hæmorrhage in operating directly upon the lung than there is in the removal of the thyroid body, a structure with which carnified lung may for this purpose be not unfairly compared. We know how successful some of the operations upon abdominal viscera have been when done in two stages. It is evident that for pulmonary surgery to make any advance some fresh mode upon new lines is necessary; and it is with no other wish than to suggest a line of thought which has occurred to myself for the consideration of those of greater experience and ability that I venture to submit my views to the notice of my *confrères*.

Huddersfield.

EAST SUBURBAN MEDICAL PROTECTION SOCIETY.—The Plaistow branch of the East Suburban Medical Protection and Medico-Ethical Society held a well-attended meeting on Nov. 4th, Mr. Alfred E. Kennedy being in the chair. The following officers were elected:—Chairman: Mr. R. Buksh. Honorary treasurer: Dr. Edwin Hegan. Honorary secretary: Mr. Napier Jones. Representative on the Executive Council: Mr. F. E. Bromley. A sub-committee was appointed to collect evidence of the abuse of medical charities and provident institutions by persons resident in the district, and it was decided to compile a black list of bad payers of medical accounts. The next meeting will be held on Dec. 7th.

AGORAPHOBIA.[1]

BY J. HEADLEY NEALE, M.B. EDIN., M.R.C.P. LOND.,
PHYSICIAN TO THE LEICESTER INFIRMARY AND FEVER HOUSE.

AGORAPHOBIA (from the Greek, ἀγορά, a market place, and φόβος, fear), or the dread of an open space, is the symptomatic title given to a nervous affection which to my mind does not receive the attention which it merits from the profession at large. Typical cases were described by Benedikt in 1870, and in 1872 by Westphal, who, I believe, was the priest who christened the infant phenomenon by its present name. In 1884[2] Dr. Prosser White of Wigan gave a clinical account of a case under his care, one paragraph of which, touching upon treatment, is of so much significance that I shall take the liberty later of quoting it verbatim. Having been myself the victim of bad attacks of agoraphobia I followed suit with a paper describing my own experiences and symptoms, but just as I was about to despatch my MS. to the Editors of THE LANCET a somewhat sweeping letter appeared in that journal from a West-end physician, the gist of which was tantamount to saying that agoraphobia was all bosh and due to excess of wine and venery. As he was an old-established practitioner and I had been established as such only a year and a half, I think you will approve the discretion I showed in letting my paper remain where it was—viz., in my own keeping, where it still is. Unfortunately, after a lapse of thirteen years I have not been able to lay my hands upon it or I would have read it to you to-night. I am sure, however, that I have but little to add to what I then wrote, except that my personal experiences have since been confirmed by numbers of cases in my hospital and private practice, in the practices of my friends, and in individuals whom I have met with in a social but not professional capacity.

The "agoraphobic" is a much more common individual than you might be led to infer from the little which is said or written of him. You may recognise him as you walk behind him in the street, or, better still, if he finds his way into your consulting-room you will have occasion to ask him but few if any questions, so graphic and pathognomonic will be his statement of his symptoms. I am using the male pronoun for brevity, for be it understood that female agoraphobics exist in plenty, although the disorder is more common in males and is essentially one of adult life only. I have heard medical men pooh-pooh agoraphobia and vaguely hint at "male hysteria," as if some storm were raging in the sinus pocularis. It might rightly be described as a "gastro-neurosis," as I do not think I have met with a single case (my own included) in which there was not a previous history of long-standing dyspepsia.

If I describe my own case and the mode of onset of the first attack, I hope I shall not be thought guilty of obtrusive egoism—I do so merely for the purpose of illustration. So far from my agoraphobia being due to excess of wine and venery, it came on first when I was a student at Edinburgh, leading a strictly temperate and celibate life, working at high pressure and drawing largely upon my reserve forces. A day's programme of a summer session consisted of continuous work, rushing from theatre to theatre note-taking at lightning-like speed, demonstrations, ward work, &c., from 9 A.M. till 5.30 P.M., with only half an hour for a hasty lunch and a breath of fresh air. Then home to my lodgings; half an hour's sleep, followed by a hearty meal, and then the real work of the day began—rewriting and illustrating all my notes of the day, a certain amount of reading, and then out came the microscope, and it is no exaggeration to say that I constantly turned out the lamp to let the sun in, and was back at College by 9. My way home lay through Chalmers-street, a short, broad, lonely street ending in a *cul-de-sac* with a gate into the "Meadows," lined with grey, uncompromising-looking stone houses, the road so unused to traffic that the grass grew up between the stones. Walking briskly one evening down the slope I have my first attack; and it is the suddenness and unexpectedness of the first attack that is so alarming—a feeling that something dreadful is going to happen, that the end of all my strivings and longings has come. I stop; the heart seems seized in an iron grip. I feel as though I were going down into the

[1] A paper read before the Leicester Medical Society on Nov 4th, 1898.
[2] THE LANCET, Dec. 27th, 1884.

earth and the earth were coming up to meet me. There is no semblance of giddiness or faintness in these attacks, it is more a feeling of collapse as though one were being shut up like a crush hat or a Chinese lantern. I have a strong inclination to cry out and I feel that I must fall, so I lay hold of, and steady myself by, the palings. A deep heaving sigh, the breaking out of a cold sweat upon the forehead, and in less time than it takes to describe (a few seconds only) the attack has passed. Then quick as lightning comes the introspection and deception of the "agoraphobic." "Anyone looking out of his window will think I'm drunk," flashes through my mind, so I drop a book or stoop to tie a shoelace and then hurry homeward, restored by the consciousness that I am not dead.

This "fear of impending death" is the worst symptom of the disorder. Next in order comes that from which it takes its title—viz., the dread of an open space; this is called up by the sensation of vastness, infinity, and solitude. Then the inability to sit in the body of a church or a crowded meeting. All the time that I was an "agoraphobic" I attended church regularly with my family, but we always sat close to the door. There I was safe; but several times when attending public functions or when visiting I have been compelled to take a seat in the body of the church; an attack has come on, more especially when the organist, on any reference to lightnings or tempests has suddenly felt himself under an obligation to let fly every stop in the organ, and I have been obliged to hold on firmly to the back of the pew in front of me till the attack passed off. A sudden noise or a flash of bright sunlight upon a white pavement will induce an attack.

Now for a word as to the possibility of agoraphobia endangering life. Under ordinary circumstances the danger is *nil*, but under special conditions it may become serious. In the early days of my practice a journeyman carpenter with typical agoraphobia consulted me. I counselled him that if ever in the course of his work an attack came upon him to be sure and put himself in a place of safety till it had passed off, but that under ordinary conditions he could laugh at his complaint. I saw nothing of him for a long time, until one day I found him in the "accident ward" of our infirmary. He had been putting down the flooring in a new building, an attack had seized him, and he fell through the rafters, sustaining a compound fracture of the leg. And now I must relate how I very nearly lost my own life. I had gone to our county asylum one day in a professional capacity and on leaving, the late Dr. Higgins, the medical superintendent, who was an expert climber, pointed to a long ladder reaching to the roof, and said, "Come on up with me and I will show you one of the finest views to be had in Leicestershire." Up he went like a monkey and I followed. When within about a dozen rungs from the top a fit of agoraphobia came on. Had I once looked down I should not have been here to address you to-night. I looked up, counted the rungs of the ladder, called to him to give me his hand, laid hold of each rung with a strong muscular effort till I was able, with his assistance, to "land" upon the roof, where I nearly collapsed. It is needless to say that I have never been up a ladder since.

I have referred to the possibility of recognising the "agoraphobic" as he walks along the street. Apart from the coarser evidence of his suddenly pausing to lay hold of a paling or to place his hand upon a wall, he will hardly ever be without a stick or umbrella, which you will notice he will plant at each step at some distance from him, in order to increase his base line of support.

Now to discuss the selection by agoraphobia of its victims. In my experience professional men suffer most, clergymen in particular, but I have known merchant princes, commercial travellers, middle-aged spinsters, and even young married women caught in its toils. I remember the case where a clergyman, the brother of a well-known doughty colonel (now deceased), holding a living in this county, suddenly collapsed and fell in a heap in the pulpit, which he never again entered. The last I heard of him was that he had gone on the Stock Exchange and was doing well. It seldom attacks poor people, but I had lately evidence of the exception to this rule. A strong, healthy-looking young married woman presented herself one day for admission to the infirmary. She staggered into the room and convulsively laid hold of the table, all the while swaying to and fro. Asked why she did this she said that she "always felt that she was sinking through the earth." I admitted her, and on my first visit to the ward I found her clutching the pillows as though her life depended on the effort. When remonstrated with for her foolish action she explained it by saying that she "felt as though she were going through the bed." I tried to reason her out of her silly fancies and told her plainly that if she continued to indulge in them she would finally find herself in the lunatic asylum. She discharged herself later, and has since become an inmate of that institution.

Under suitable conditions and treatment the prognosis of agoraphobia is favourable, but sometimes, especially in the case of weak, dyspeptic women, it runs through the course of deception, introspection, hypochondriasis, on to melancholia.

Treatment must be conducted primarily and essentially on a psychological basis. You must try to convince your patient that there is nothing in his condition inimical to life or which may not be overcome by strength of will. *Apropos* of this I will quote Dr. Prosser White's remarks upon his case: "These feelings and attacks may sometimes be avoided or lessened in severity by moral determination; deep concentration of thought will enable him to cross an open space, or certain places which otherwise induce these attacks of dread; companionship relieves the feeling of loneliness and fear. ..... The presence of a cart, even a stick or umbrella in the hand, gives a sense of confidence. ..... Cheerful and lively conversation with a congenial companion will always ward off the attacks." For the rest, the avoidance of overmental strain and of all excesses, a careful dietary, aids to digestion and tonics, will together contribute to a satisfactory issue and ensure the disappearance of this pathological "spook"—it being in reality but a phantom disorder.

Leicester.

A CASE OF PHTHISIS WITH PECULIAR CARDIAC PHYSICAL SIGNS.

BY W. HALE WHITE, M.D. LOND.,
PHYSICIAN TO GUY'S HOSPITAL.

A MAN, aged forty-two years, a hall porter, was admitted into Guy's Hospital on August 17th, 1898. He had been a soldier. His family history and previous history are unimportant. He had been ill for about seven months, losing flesh and suffering from pain in the chest, cough, abundant expectoration, and sweating at night.

On admission he was pale, thin, and wasted. The left lung appeared normal, except for prolonged respiration at the apex in front and behind. The right chest was resonant down to the third intercostal space, and over this resonant area there were loud amphoric breathing and a bruit d'airain. Below the third interspace the front of the chest was absolutely dull, and loud bronchial breathing could be heard, together with consonating râles. Behind there was nothing noteworthy about the physical signs, except that there was evidence of a cavity at the apex of the lower lobe.

The heart.—On looking at the chest a beat exactly like the normal apex beat of the heart could be seen in the fifth right intercostal space just internal to the nipple. On placing the finger over this spot a beat was felt exactly like the normal cardiac apex beat. On auscultation over this spot the heart sounds were heard very much louder than at any other point in the chest. In the third and fourth right intercostal spaces a faint cardiac beat could be seen midway between the nipple and the sternum. In a bad light no impulse of the heart could be seen in the normal position internal to the left nipple, nor, indeed, could any cardiac beat be detected on the left side, although with the same amount of light the beat on the right side was easily visible. In a bright light a faint cardiac impulse could be seen in the fifth left intercostal space just internal to the nipple. This beat could be felt and the cardiac sounds could be heard over it, but the tactile impulse was very poor compared with that below the right nipple, and the sounds over the left impulse were not nearly so loud as they were over the right.

Cardiac dulness.—The resonance of the left lung extended over the normal cardiac dulness. On the right side the cardiac dulness could not be determined because of the consolidation of the lung.

The patient developed pleurisy and suddenly and unexpectedly died on Sept. 2nd. The physical signs remained unaltered during the time he was under observation.

When I saw this man it seemed to me that the only way to satisfactorily account for his physical signs was to believe that pleuritic adhesions and contraction of fibroid tissue in

the right lung had dragged the heart over to the right, so that the apex or some other part of the heart was causing an impulse in the fifth right intercostal space. I thought that the very much fainter impulse on the left side might be due to the normal attachments of the pericardium. The explanation here suggested would also account for the loudness of the sounds near the right nipple. The only objection to this view was that there was not much falling-in of the right side of the chest.

The post-mortem examination, however, showed that the heart was in its natural position. It lay in its usual position in the pericardium and its right side was naturally adjacent to the right lung. The whole of the upper lobe of the right lung was converted into a large cavity, the largest, I think, I have ever seen, while the middle and lower lobes were completely solid, except that the lower lobe had some small cavities in the upper part at the back. This condition of things readily explained why the cardiac sounds were heard so loudly on the right side, for the solid lung would have conducted them well and the adjacent large cavity acting as a resonator would have intensified them. But there was no explanation why the impulse should have been so well marked both to sight and touch in the fifth right intercostal space. I know of no reason why solid lung should conduct it to this spot; indeed, as a rule, solid lung does not cause the impulse to be felt in abnormal positions, for this transference of impulse is not a feature of lobar pneumonia.

I have thought this case worthy to be put on record because it seemed to me to show that we must not assume that when the heart's impulse is seen and felt far on to the right side of the chest the organ is necessarily dragged or pushed over or altered in size.

Harley-street, W.

LAPAROTOMY FOR INTUSSUSCEPTION.

BY R. W. MURRAY, F.R.C.S. ENG.,
SURGEON TO THE LIVERPOOL INFIRMARY FOR CHILDREN.

THE treatment of intussusception in young children has of recent years been frequently dealt with in the columns of THE LANCET and it would appear that there is an ever-increasing tendency on the part of surgeons to discard the uncertain and somewhat dangerous method of attempting reduction by means of rectal injections and to practise earlier the more certain method of abdominal section. As to the uncertainty of reduction by rectal injection Dr. Holme Wiggin[1] in his most interesting and instructive review of the treatment of intussusception, showed that the failures to effect reduction after rectal injections amount to 75 per cent., and, curiously enough, the same proportion of failures holds good in the cases of this nature so treated at the Liverpool Infirmary for Children during the last ten years. Of 16 cases of intussusception under treatment during that period rectal injections were tried in 12 and were successful in 4 only. In 2 of these 12 cases laparotomy was subsequently performed and the invaginated portion of the bowel reduced, and the patients recovered. As to the dangers of rectal injections Mr. J. D. Mortimer[2] has demonstrated that if the funnel of the injecting tube be raised to a greater height than 3 ft. from the level of the child's body there is a very real danger of rupturing the young and inflamed gut.

My personal experience of laparotomy for intussusception is limited to 6 cases. In one case, that of a boy aged four years, the intussusception was of a chronic nature, and after several unsuccessful attempts at reduction had been made by means of rectal injections of water the abdomen was opened and the intussusception, which was of the ileo-cæcal variety, reduced. The child completely recovered. In the other 5 cases the patients were all under twelve months of age and much collapsed at the time of operation. In one instance the intussusception had existed for four days without treatment. Laparotomy was performed, but the reduction was a matter of considerable difficulty, the peritoneal coat of the bowel tearing. The child died twelve hours later. In a second case I first saw the child on the fifth day of the illness. Rectal injections had been previously tried. I opened the abdomen at once, but the intussusception could not be reduced; it was excised and the patient died. In a third case the symptoms of intussusception had existed for twenty-four hours. Primary laparotomy was performed. The reduction was difficult, the peritoneal coat of the bowel tearing. This child also died. In a fourth case I saw the patient twenty-four hours after the onset of the symptoms and the invagination could then be felt from the rectum. Reduction by means of water was attempted, which, however, was not successful, and on the following day I opened the abdomen and the bowel was so tightly strangulated that reduction of the invagination was impossible. It was therefore excised and the child died shortly afterwards. In this instance I believe the bowel became strangulated very early, and I doubt whether if primary laparotomy had been performed we could have saved the patient. The fifth case was successful and therefore presumably being more interesting I will relate it a little more fully.

A female infant, aged six months, was seen in the out-patient department of the Liverpool Infirmary for Children by my colleague, Dr. Percy Marsh, on the afternoon of May 27th, 1898, and was at once admitted. The patient was a well-nourished breast-fed infant and had been quite well up to 11.30 P.M. of May 26th, when she cried apparently from pain and was restless and vomited. The next morning the child was seriously ill and blood and mucus were passed per rectum. I saw her shortly after her admission and the collapse was so great that when I entered the ward oxygen was being administered. The intussusception could be easily felt through the abdominal wall and occupied the position of the transverse colon. No tumour could be felt from the rectum, but on withdrawing the finger blood and mucus escaped. It struck us as being extremely doubtful whether we could save the child, and if anything was to be done it must be done at once and done quickly. A little chloroform was given, the abdomen opened in the middle line, and the intussusception, which was of the ileo-cæcal variety and about 6in. in length, was found, brought to the surface, and reduced. The reduction was easy up to the final piece, which offered some resistance. The portion of the gut which had been invaginated was washed with warm boric lotion and returned into the abdomen. The abdominal wound was completely closed. The general condition of the child afterwards appeared to be much the same as it was before the operation, but the next morning there was a marked change for the better. The subsequent convalescence was uneventful and the patient completely recovered. In this particular instance, though the case was brought early for treatment, I feel sure we did the right thing in at once performing laparotomy, for although the intussusception was reduced with the fingers without much difficulty, still I doubt very much whether rectal injections would have been equally successful, and the condition of the child would not admit of primary failure. In performing the operation I was so admirably assisted by my house surgeon and the nurses that the time occupied was exceptionally short, and as, other things being equal, in cases of this nature rapidity makes for success I may perhaps be excused for mentioning the following details. Dr. Percy Marsh, who was present at the operation, told me afterwards that he had timed it and that the abdomen was opened and the intussusception reduced in four minutes, the bowel returned and the abdominal wound sewn up in three and a half minutes, so that the whole operation lasted only seven and a half minutes.

If, then, it is a fact that the chances against the successful reduction of an intussusception by means of rectal injections are as three to one, surely it would be well when circumstances permit of it to perform primary laparotomy, for it is a far more certain method, and the record of published cases of laparotomy for intussusception during the last five years is very encouraging, and as an operation it is not necessarily more dangerous than attempted reduction by means of rectal injections.

It is, I believe, impossible to say in any individual case whether the intussusception will be easily reduced or not, and if after opening the abdomen the invagination is easily reduced then the operation may be completed in a few minutes. If, on the other hand, the reduction is difficult or impossible the child is obviously in a better condition to stand a severe operation than if he had already been subjected to a rectal injection.

Liverpool.

[1] THE LANCET, August 28th, 1897.
[2] THE LANCET, May 23rd, 1891.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

DIPHTHERIA BACILLI IN THE URINE.

BY CAPTAIN FREDERICK SMITH, R.A.M.C., D.P.H. DURH.,
LATE OF THE BACTERIOLOGICAL DEPARTMENT OF THE ARMY MEDICAL SCHOOL.

THE following notes were made some ten months ago, but were not published as it was hoped that a more complete inquiry into the subject could first be carried out. The exigencies of active military service, however, prevented anything further being done, and as there is no immediate prospect of an opportunity to resume the work it is thought desirable to put forward this instalment of the subject.

A guinea-pig which had been some days before injected with live broth culture of diphtheria bacilli was noticed to be passing hæmorrhagic urine, and the idea at once suggested itself—if blood, why not bacilli? The animal was killed and opened aseptically and the bladder was exposed. The viscus was touched with a heated glass rod and pierced at the sterilised spot by a glass pipette. Bloody urine thus obtained in the pipette was run over the surface of coagulated serum in a Petrie dish. After incubation a copious growth of typical Klebs-Löffler bacilli was the result.

A second guinea-pig was injected with a living culture. The animal was killed five hours later and the urine was obtained aseptically in the manner above detailed. The urine was normal in appearance, but a plentiful growth of diphtheria bacilli on serum was obtained.

The result in the case of the second guinea-pig is somewhat surprising considering the short time which elapsed between injection and death. These facts go to prove that, in the guinea-pig at any rate, bacilli in the blood-stream are some of them eliminated alive through the kidneys. It does not follow, of course, that diphtheria bacilli are passed alive through the kidney of a human being suffering from diphtherial disease. For all that, the results obtained suggest that, at least in hæmorrhagic diphtheria, bacilli will be found in the urine. It may further be anticipated that in all cases in which the bacillus (whether in small or large numbers) escapes into the blood-stream it will be present in the urine. It may be predicted even that in order to prove the presence of the bacillus in the blood search for it will be made in the urine in future. The practical bearing of this question is important from the public health point of view. If the urine of diphtheria patients is liable to contain the bacillus, the urine and fæces (for the solid excreta are almost invariably mixed with more or less urine) will have to be disinfected just as rigorously as those of patients suffering from enteric fever. Those hygienists who have so strenuously maintained that there is a connexion between general insanitation, middens, &c., and diphtheria will have a new fact to strengthen their argument.

Sherbro, Sierra Leone.

IDIOSYNCRASY TOWARDS POTASSIUM CHLORATE?

BY WILLIAM ROBERT CULLING, L.R.C.P. EDIN., L.S.A.

Is this a case of idiosyncrasy towards potassium chlorate, or how are the symptoms to be interpreted?

A man, aged about fifty years, a painter, consulted me on June 28th, 1898, for a general dermatitis, especially on the legs. I prescribed liquor arsenicalis, 3 minims; potassium chlorate, 10 grains; tincture of hyoscyamus, 15 minims, twice daily in a wineglassful of water. The first dose made him feel cold, and as he persevered he noticed after each dose that the time he felt cold was evidently longer; however, as he improved he stuck to his medicine pretty regularly until Sept. 16th, when he began to think that the remedy was nearly as bad as the disease. His description to me of his trouble to take his medicine was: "You ordered me to take it after breakfast and after supper in a wineglass of water." "Quite right," I remarked. "Well," he said, "I tell you what I do. After breakfast I get my wife to make up the kitchen fire. I then drink off my dose, button up my coat as you see (an ordinary frock coat), get my overcoat, put it on and button it up, and there I sit till dinner time, teeth chattering—in fact, shivering and shaking all over. When I get my dinner I feel better." "Breakfast at 8 A.M. and dinner at 1 P.M.?" I remarked. "As near as possible," he replied, "and then at night I take the medicine directly after supper, get into bed and cover myself up just as I should in the midst of winter, going through the same as I described after my morning dose." These are as nearly as possible his own words. Now he wished to be let off his performance, so under the circumstances I advised him to discontinue his mixture for a week at any rate to see if the external applications would not complete a cure.

Jermyn-street, S.W.

NOTE ON A CASE OF PERSISTENCE OF HYMEN; RETAINED MISCARRIAGE.

BY W. HARPER WIGHAM, M.B. DURH., M.R.C.S. ENG.

IN THE LANCET of Nov. 12th were published the notes of Dr. N. Cullinan on a case of persistence of the hymen into the second stage of labour, in connexion with which the following case may be worth recording.

I was consulted—I purposely refrain from giving dates—by a young woman who complained of being "irregular" and of having "the whites." Without local examination, of course, but after an examination of the heart and, what was as important, an inspection of the breasts, which gave no indication of pregnancy, I prescribed an iron tonic for internal use and an astringent lotion for local application. Going away for a holiday I did not see the patient again for nearly three weeks, but on her calling again in my absence my prescriptions had been once repeated. I saw her in consultation on my return with her mother who accompanied her. I continued the treatment, at the same time suggesting a local examination if the symptoms did not abate. A few days later I was requested to make the examination at the parents' house in the presence of the mother. On visual examination the labia were found to be covered with a discharge of a very unpleasant and sickly odour. On carefully attempting to make a digital vaginal examination I found an obstruction—an extremely tough and dense hymen—existing, with a great convexity downwards and outwards and with a feeling of resistance, as if something solid existed beyond. There was found to be one small opening in the membrane in the anterior third just below the pubes through which an attempt was made to insinuate the forefinger. The patient cried out that she was being very much hurt; but being satisfied in my own mind that there was something beyond which required investigation, with the consent of the patient and her mother I administered chloroform and then continued my examination. Having enlarged the opening in the membrane by forcing my forefinger through I discovered a hard mass behind and on withdrawing my finger a disagreeable putrid odour clung to it. I deemed it necessary to break down the hymen in its entirety, upon which there was a fair amount of hæmorrhage. Proceeding I discovered that the mass above was none other than a fœtus of about the fourth month with cord and placenta all lying together in a globular dilatation of the upper part of the vagina. Having got them away I prolonged my examination upwards, only to find that the os was closed and apparently normal and that the uterus was well contracted down. From the above facts with regard to the uterus and from the putrefaction of the fœtus the condition had apparently existed over a month at least.

There are in this case, then, the fact of impregnation taking place with non-rupture of the hymen, the more extraordinary one of its persistence on the occurrence of abortion, and the further one that the patient did her ordinary work under the conditions which are recorded above.

South Molton, North Devon.

A Mirror
OF
HOSPITAL PRACTICE.
BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

WESTMINSTER HOSPITAL.

A CASE OF COMPOUND SEPARATION OF THE LOWER EPIPHYSIS OF BOTH RADIUS AND ULNA, FOLLOWED BY ACUTE TETANUS, TREATED WITH TETANUS ANTITOXIN AND IRRIGATION OF THE WOUND WITH OXYGEN GAS WITHOUT RELIEF.

(Under the care of Mr. CHARLES STONHAM.)

ALTHOUGH the injury inflicted on the radius and ulna in the following case is of great rarity, yet the chief interest in it is associated with the use of tetanus antitoxin. Numerous cases of tetanus have been recorded in which the administration of this substance has been followed by recovery, but it is very far from being certain that tetanus antitoxin has much influence on the result. In a fair proportion of cases tetanus ends in recovery when only sedatives have been employed, and this is especially true of those cases in which the onset of the symptoms is long delayed. In acute cases all forms of treatment seem equally useless, and it cannot be said that any more favourable results are obtained by the use of the antitoxin than by other remedies. It is possible that large doses might be successful, for the antitoxin seems rarely to give rise to any unfavourable symptoms. The failure of the substance in Mr. Stonham's case is a greater reason for the publication of the case than if the patient had recovered. In all cases in which antitoxins have been employed it is desirable to record the source whence it has been procured. For the notes of the case we are indebted to Mr. E. Percy Paton, surgical registrar.

A boy, aged fourteen years, a plumber's mate, was admitted into Westminster Hospital on Dec. 11th, 1896, having just fallen 20 ft. from a ladder. On examination there was found a wound, between 2 in. and 3 in. long, extending transversely across the right forearm just above the wrist-joint on the flexor aspect. The wound was begrimed with dirt and through it protruded the lower ends of the diaphyses of the radius and ulna. He was at once anæsthetised and the wound was cleaned, the fractures were reduced, and the wound was closed by the house surgeon, the arm being put up on a splint. All went well for the next day or two except that the temperature rose somewhat, and the stitches had to be removed to let out some pus on Dec. 13th, and treatment by an arm-bath was commenced. He seemed gradually to improve, the temperature steadily falling. On the 16th the patient complained of a little pain in the right shoulder, but nothing to account for it was found, and it seemed to be due merely to fatigue from holding the arm in the arm bath. At 6 A.M. on the 18th he was suddenly seized with a kind of fit; there was general rigidity, especially of the muscles of the neck and the muscles of the back. The head was drawn backwards and the jaws also were tightly clenched. The severity of the pain made him cry out. At 11.45 A.M. the stiffness of the jaw was rather better, but the risus sardonicus was slightly marked and occasionally the muscles of the neck were distinctly stiff and the back was strongly arched, but no rigidity was noticeable in the limbs. The condition of the wound was unaltered from the day before and the temperature was rather lower. At 12 noon he was given 15 gr. of chloral hydrate and of bromide of potassium. At 2 P.M. chloroform was given and the wound was thoroughly cleaned and irrigated with oxygen gas. On recovery from the anæsthesia the general rigidity of the trunk and head returned, but the limbs were still very little affected. At 4 P.M. he was given croton oil (1½ m.), which acted well, and at 5.30 the chloral and bromide mixture was repeated. At 10 P.M. 15 c.c. of the tetanus antitoxin, obtained from the Institute of Preventive Medicine, were injected; it was not followed by any immediate results, but at 2 A.M. on the 19th it was noticed that he opened his mouth widely several times, and a little later the stiffness of the back and neck seemed much less; but by 3 A.M. these symptoms had all returned. At 4 A.M. 8 c.c. of antitoxin were injected and at 6 A.M. the chloral and bromide mixture was repeated, but without any signs of improvement, though there were no violent spasms. At 8.50 A.M. he had a bad spasm, which lasted about twenty minutes, and in which all the limbs moved. It was followed almost at once by a second spasm which only lasted two minutes. In both there were very marked opisthotonos and trismus. Immediately afterwards the wound was dressed and again irrigated with oxygen. At 10.30 A.M. 12 c.c. of antitoxin were injected and at 12 noon the chloral and bromide draught was repeated, but at 2.30 P.M. he was seized with a more violent spasm, became very blue, and died.

Necropsy.—The wound showed extensive laceration of the soft parts surrounding the ends of the radius and ulna; the epiphyses of both bones were separated; the median nerve had been torn across and its upper end was bulbous. The brain weighed 56 oz. and seemed somewhat flabby, but otherwise neither it nor the spinal cord showed any abnormal naked-eye appearances. There was a small amount of greenish pus in the left middle-ear. Nothing abnormal was discovered in any other organ or part of the body. An examination was also made during life of the pus from the wound, which was found to contain the tetanus bacillus. This was further demonstrated by cultivation, when specimens were obtained of the bacillus showing typical spore development.

Remarks by Mr. PATON.—This case appears to be worth recording, in the first place because of the infrequency of separation of the lower epiphyses of the radius and ulna, but more especially as a case in which the tetanus which supervened was treated with tetanus antitoxin, and this without any relief to the symptoms. The antitoxin treatment of tetanus is still on its trial, so that it seems advisable that as far as possible all cases, both successful and unsuccessful, should be recorded. It will no doubt be said by the advocates of the treatment that in such an acute case as this, in which the disease ran its course in about thirty-six hours from commencement to termination, no treatment is likely to be of any avail. On the other hand, it may be said with equal truth that the less acute the case is the more tendency there is for a spontaneous cure to result from the mere resisting power of the patient and thus a fictitious appearance of success may be given to any treatment, such as that by antitoxin, which may have been tried, so that it may be argued with some reasonableness that the acuter the case the better test it will be of any form of treatment which professes to cut short the disease process. In the case of which the notes are given above, as far as could be seen, no relief to any of the symptoms resulted from the injections, while, on the other hand, they appeared to have no deleterious effect.

ROYAL INFIRMARY, NEWCASTLE-UPON-TYNE.

A CASE OF CARBOLIC ACID POISONING TREATED BY VENESECTION AND INJECTION OF SALINE FLUID; RAPID RECOVERY.

(Under the care of Dr. T. OLIVER.)

APART from the severe local effects of carbolic acid, which of themselves may cause death, the fatal result is due to the action of the poison after absorption. The attempt to remove this absorbed carbolic acid by injecting saline fluids into the vascular system is well deserving of extended trial, for the added fluid is in great part rapidly excreted by the kidney and carries no small portion of the poison away with it. The method employed in the case recorded below to remove still more of the drug by performing venesection is ingenious, but we do not think that it is likely to prove of much value. In Dr. Oliver's case 8 oz. of blood were removed; now this quantity is only about 5 or 6 per cent. of the total quantity of blood in the body, and therefore the withdrawal of this amount of blood would only mean the withdrawal from the body of the corresponding percentage of the poison. Of course the removal of even 5 per cent. of the poison absorbed will assist the recovery, but we do not feel inclined to look for so much benefit from it as we should

expect from the method of saline injection. In considering that 8 oz. of blood would only equal 5 or 6 per cent. of the total weight of blood in the body we have taken the usual estimate that the blood forms one-thirteenth of the body weight, and we may fairly suppose that the patient weighed between 8 st. and 10 st.

An unmarried woman, aged twenty-one years, was admitted to the infirmary in a state of coma due to carbolic acid intoxication. She was received by the house physician, Dr. Rowell, to whom is due the merit of successful treatment of the patient. In the article on Carbolic Acid Poisoning in Allbutt's "System of Medicine," vol. ii., Dr. Oliver draws attention to the desirability once carbolic acid in any quantity has been absorbed into the blood of washing out the poison by means of saline fluid, but in the present instance venesection was practised as well. It appears that about three-quarters of an hour before her admission into the infirmary the patient, who had had a quarrel with her father, swallowed seven drachms of ordinary commercial carbolic acid. When Dr. Rowell saw her she was comatose and collapsed; there was no corneal reflex; the pupils were contracted; she was cyanosed; respiration was slow and shallow, and if the lower jaw was not supported it fell back and stopped the breathing. The pulse, at first of medium rate and volume, became flickering and was with difficulty counted. The breath smelt strongly of carbolic acid. The lips, mouth, and fauces were corroded and blistered. A soft indiarubber stomach tube was passed with difficulty down the œsophagus and the stomach was freely washed out with warm water containing some sulphate of soda. While this was being done the internal saphenous vein of the left leg was opened and eight ounces of blood were removed Four pints of a normal saline solution at a temperature of 110° F. were then injected into the vein; $\frac{1}{30}$ gr. of sulphate of atropia was given hypodermically to stimulate her respiratory centre. Half a pint of milk beaten up with two eggs, to which was added one minim of croton oil, was passed down the stomach tube. By degrees the patient, who at first seemed moribund, began to come round, her pulse gradually improved, and the respiratory movements became stronger. In a few hours she had rallied sufficiently to recognise those around her. Glycerine in drachm doses was given frequently to allay the burning sensation in her throat and œsophagus. On the following day when seen by Dr. Oliver she seemed remarkably well and the pulse was good. There was still pain on pressing the epigastrium. For three days the urine was dark green in colour; it contained phosphates but never albumin. The wound made in the leg healed kindly and recovery generally was rapid and complete.

Remarks by Dr. OLIVER.—Once a poison like carbolic acid has got into the blood washing out of the stomach is not enough. The rational treatment is, in addition, to transfuse, or to do as was done in this case, bleed and transfuse.

Medical Societies.

MEDICAL SOCIETY OF LONDON.

Gastro-jejunostomy.—Anomalous Murmur.—Aneurysm of the Common Carotid Artery.—Diabetes Insipidus.—Sarcoma treated by Coley's Fluid. — Hepatoptosis. — Multiple Patellæ.—Genu Retrorsum.—Multiple Fibromata.

A CLINICAL meeting of this society was held on Nov. 14th, the President, Mr. EDMUND OWEN, being in the chair.

The PRESIDENT showed a case of Gastro-enterostomy performed for Inoperable Disease of the Pylorus. The patient, a man, aged thirty-one years, for a twelvemonth had discomfort in the pyloric region with vomiting after meals. He had lost his appetite and could neither work nor sleep; he was greatly emaciated. The stomach was much dilated. On July 18th abdominal section was performed; the pylorus was obscured and fixed by a hard mass surrounded by enlarged lymphatic glands. A communication was made between the front of the stomach and an adjacent piece of jejunum by means of a Murphy's button. The man can now eat and drink anything; he has lost his dyspepsia and has become almost robust. Nothing has yet been seen of the button, but, wherever it is, it is doing no harm.—Mr. BATTLE asked what size of button was used, also the exact position of communication with the stomach. He also asked how soon after operation food was given by the mouth and as to the duration of the previous illness. He inquired what was the amount of the glandular enlargement. He gathered that the President believed it to be a case of malignant disease of the pylorus, in which case, of course, the prognosis was necessarily unsatisfactory. He himself had operated on a man, aged twenty-eight years, last year for pyloric obstruction of some duration though the symptoms were acute. Although the duration of the malady was but short he found extensive growths in the glands and multiple growths on the peritoneum. The patient did extremely well after the operation but died six weeks later from malignant disease of the pleura.—The PRESIDENT, in reply, said the lumen of the stalk of the button was of about the size of the top of his little finger and when it sloughed away would leave an aperture of about the size of a shilling, which he feared would go on contracting. The disease in his case had lasted about twelve months. He made his opening into the stomach in the anterior part low down quite clear of any vessels. He had fixed a piece of jejunum to the front of the stomach, where it was in apposition. He said the question had been raised as to the advisability of making the opening in the anterior part of the stomach on account of the risk of a kink, but his experience had not suggested anything of the kind. He began to give the patient home-made beef jelly on the day after the operation. He thought it was a malignant growth and the prognosis was therefore decidedly bad.

Dr. HECTOR MACKENZIE showed a case of Vascular Murmur of obscure origin, audible at the base of the right lung. The patient was a man, aged forty-one years, who had been under treatment for recurrent hæmoptysis at the Brompton Hospital during the last four years. Throughout the first period of attendance, from August, 1894, to May, 1895, there were five attacks of hæmoptysis, which were all slight, and the only abnormal physical signs then observed were diminished resonance, bronchial breathing, and pectoriloquy at the right apex. The patient kept fairly well until August, 1897, when hæmoptysis recurred and he again presented himself at the hospital. He had a cough with yellow expectoration and complained of night sweats and loss of appetite. The physical signs at the right apex were the same as before with the addition of crepitations, but it was now discovered that at the base of the right lung a very peculiar vascular murmur was present. The murmur was loud and blowing and occupied nearly the whole period of the cardiac cycle. In character it very closely resembled the murmur produced by a communication between an artery and a vein, such as sometimes occurred in cases of aneurysm. The murmur increased in intensity with inspiration, but was not obviously altered when the patient held his breath either in inspiration or expiration. The position of maximum intensity was situated over the seventh, eighth, and ninth ribs in the posterior axillary line, on either side of which the murmur was distinctly audible for two or three inches. There were no other abnormal physical signs at the right base, no dulness, no pulsation, no alteration of breath or voice sounds. Since it was first noticed the murmur had not altered either in character or situation. During the last year there had been numerous slight attacks of hæmoptysis, but during the intervals the patient had been fairly well and able to continue his work as a draughtsman. There had been no change in the physical signs at the right apex. Dr. Mackenzie was unable to offer any explanation of the cause of the vascular murmur. It was possible that it might be due to a vascular growth in the lung. It was unlikely from the situation that it was produced by an aneurysm. The fact that the patient had pulmonary tubercle was sufficient explanation of the attacks of hæmoptysis, which probably was quite unconnected with the condition which gave rise to the murmur.—Dr. MAGUIRE said the only condition he could suggest as the cause of the murmur was an angioma of the liver. The murmur resembled that heard over the jugular vein in anæmia and was increased in intensity during inspiration. Moreover, the upper part of the liver seemed to be somewhat irregular behind on percussion. He admitted that angiomas of the liver were usually small and were often embedded in the substance of the organ, but he had seen one as large as a duck's egg which would suffice to cause a similar murmur.—The PRESIDENT asked whether there were any "mother's marks" which might suggest the murmur being due to a nævoid formation.—Dr. CALEY suggested that the murmur might be

generated in connexion with the vena cava at its passage through the diaphragm. It was remarkable what a difference there was during inspiration and this he thought was consistent with a relative stenosis of the vena cava in that situation.—Dr. MACKENZIE, in reply, said there were no mother's marks and he had not been able to make out any irregularity of the upper border of the liver as stated by Dr. Maguire.

Dr. SEYMOUR TAYLOR showed a case of Aneurysm of the Right Common Carotid Artery occurring in a man, aged thirty-five years. The aneurysm was of the size of a turkey's egg, extending from the left sterno-clavicular joint to the level of the hyoid bone. It caused no pain or distress and the vocal cords were not paralysed. The symptoms had developed after the ligature of both superficial femoral arteries for popliteal aneurysm. There were no signs of aortic aneurysm.—The PRESIDENT observed that if one asked a student the causation of arteritis he would certainly incriminate syphilis, but personally he was not so sure that it was an important factor in the etiology of arteritis. He recalled the observation of an officer in the Indian Medical Service who commented on the fact that while syphilis was prevalent in India aneurysm was very rare. It was an interesting fact that this patient had at the same time two popliteal aneurysms and a swelling of the carotid at its bifurcation. He himself would not advise proximal ligature in such a case and suggested that it might be better to try the effects of distal ligature followed by the injection of a coagulating fluid into the sac.—Dr. TAYLOR, in reply, agreed with the last suggestion, adding that of course ligature of the common carotid presented two great risks, viz., sepsis and the danger of hemiplegia as the result of interference with the cerebral circulation. If the obstruction to the circulation could be done gradually it was quite possible that a collateral circulation would be established. He had not attempted any treatment so far, but as Mr. W. G. Spencer described the case as one of syphilitic arteritis he would now try the effect of anti-syphilitic medication.

Dr. WILFRED HADLEY showed a case of Diabetes Insipidus in a woman. There was no family history bearing on the case. She had purulent otorrhœa when twenty-one years of age. She had had thirst and polyuria for over two years and attacks of giddiness with misty vision, and she had lost 2 st. in weight in the last two years. There were no other signs of disease of the nervous system. The average amount of urine passed per diem was 216 oz. The specific gravity was low, but the total daily nitrogen was slightly above the average.—Dr. S. TAYLOR said that on first seeing the patient he thought it was a case of myxœdema. Her face was swollen and bloated and there was a tendency to the red patch on the cheeks. Her voice was of the typical leathery intonation, and he thought if the case was watched that symptoms would develop showing that the case was one of typical myxœdema. It was just on the borderland of the kind referred to by Dr. Ord in his last Bradshaw Lecture.—Dr. MAGUIRE said the pathology of these cases was extremely obscure. It was difficult to decide the usual state of the blood tension and neither feeling the pulse nor the sphygmometer gave trustworthy information. He had recently tried to use a sphygmometer but with indifferent success, but if in the future they could obtain the means of telling more accurately the state of the blood tension in general they would be enabled to get at a pulse tension which might be characteristic of the disease as a whole. In this case it seemed to be high.—Mr. BATTLE said that when he was house physician at St. Thomas's Hospital a patient was admitted, unconscious, under the care of Dr. Payne, passing many pints of urine in the day, in whom post mortem a gumma was found in the floor of the fourth ventricle. He asked if there was any specific history in Dr. Hadley's case.—Dr. HADLEY, in reply, said that he had noticed the myxœdematous appearance and he had, moreover, noticed the same thing in other cases of the kind. He thought the symptoms might be due to the enormous amount of fluid drunk by the patient, which being consumed quickly might determine heightened arterial tension, which in its turn might determine the bloated appearance. Her appearance was that of a person who drank. The voice was worse when she had had nothing to drink for some time. He thought the peculiarity was due to the sticky dryness of the fauces. The blood tension appeared to him to be medium. She had always a faint but unmistakeable trace of albumin in the urine and there was always a doubt in these cases whether they might not be abnormal cases of commencing granular kidney. The patient was a single woman who had never had a child or a miscarriage and there was nothing to suggest a specific history. He had therefore not administered iodide of potassium. Bernard had shown that polyuria might be produced by puncture of the fourth ventricle at a spot higher than the spot puncture whereof gave rise to glycosuria.

Mr. BATTLE showed a man who had already been exhibited before the society while under Treatment for Sarcoma by Coley's Fluid. He then presented a large tumour under the right clavicle extending down the chest, another above the clavicle extending into the posterior triangle of the neck, and others over the sternum, &c., with numerous diseased glands in the axilla. He was treated by half-minim doses of Coley's fluid injected into the arm, gradually increased to one minim. The total quantity did not exceed twenty-four minims. The treatment was carried on for three months, ceasing in May last. His progress had been very satisfactory, and actually there was no trace of the tumours. Microscopical examination of portions of the growths from the sternum, &c., had shown the growth to be composed of spindle cells with some large cells.—The PRESIDENT said the diagnosis of sarcoma did not appear to be certain, and he thought the examination of specimens removed from the living subject apt to mislead. If it were a sarcoma why were the glands in the axilla enlarged? It would be very unlikely that a sarcoma of the breast or in its neighbourhood would infect the axillary glands. He suggested that it might be a case of granuloma of syphilitic or tuberculous origin. He asked whether the patient had had syphilis.—Mr. MANSELL MOULLIN congratulated Mr. Battle on having shown the first authentic case of dispersion of tumour by Coley's fluid in England. He himself had seen the tumour and the various secondary growths, and he had also seen the microscopical sections and he could not conceive that the tumour was anything but sarcoma. He said there was a great tendency to doubt Coley and Coley's statements. Last year he himself had brought forward two cases before the society in which the tumours had disappeared under this treatment. They were intra-abdominal tumours, so that he was not in a position to affirm positively that they were sarcomatous. He had also published a third case of a tumour growing in the iliac region which also did not admit of conclusive proof, but it completely disappeared. He admitted that none of his cases could be proved to be sarcomatous, but they were certainly not inflammatory and they were not gummatous and they disappeared under treatment by Coley's fluid. Mr. Battle's case was the first in which there had been a thorough microscopical examination. He said he had seen a good deal of Dr. Coley and he believed everything that gentleman stated. Coley had published a large series of cases of spindle-celled sarcoma, every one of which had been influenced by his fluid, though all had not been cured. He believed, however, that all the spindle-celled cases had been favourably influenced and in a large proportion of the cases the tumours had disappeared completely and in some there had been no recurrence for upwards of seven years. These cases were authenticated by microscopical examination by well-known American observers. He believed that in Coley's fluid they had a remedy for spindle-celled sarcoma, not perhaps an ideal remedy, because it was somewhat dangerous and it did not succeed in all cases, but they were evidently on the right track. Recurrence sometimes took place, but so it did sometimes after operation, yet he had never heard operation decried because it did not afford a guarantee against recurrence. Therefore, if recurrence did take place with the fluid the latter was not in a worse position than operation.—Dr. MAGUIRE related a case at St. Mary's Hospital sent to him by Mr. J. E. Lane, who had amputated through the upper third of the thigh for sarcoma. The patient was spitting blood and there was evidence of recurrence in the stump and probably also in the stomach. It was an absolutely hopeless case, but with the patient's consent he tried Coley's fluid, injecting it directly into the veins of the arm so as to obtain a constitutional effect. He injected first 3 and then 5 minims for ten days every other day without the slightest ill effect and with relief to some of the symptoms. The patient died and post mortem it was shown that the case was necessarily quite hopeless, the lungs being riddled with sarcomatous nodules.—The PRESIDENT said that while they did not doubt Coley in the

least, that did not prevent a feeling of scepticism as to the diagnosis of sarcoma in these cases. It was good that there should be some enthusiasts. One case which was treated for malignant disease of the end of the femur by Coley's fluid eventually found its way into another hospital, where the patient underwent excision for tuberculous hip-joint disease. If that case had got well under Coley's fluid what a splendid triumph it would have been. He admitted that he was a sceptic and wanted these cases proved up to the hilt before being recorded. He did not agree that this was a case of sarcoma cured by Coley's fluid, and it would not figure in the Transactions as such.—Mr. WATERHOUSE concurred with the President in being absolutely sceptical with regard to Coley's fluid. His own experience was limited to 5 cases of inoperable sarcoma. In 3 of these cases rigors occurred and in 2 even with medium doses the patients had died from hyperpyrexia. It was therefore a most dangerous remedy and in no case did it do any good whatever. He related the case of a man suffering apparently from sarcoma of the lower third of the femur. He absolutely declined amputation, but he allowed an incision to be made into the mass, from which specimens were removed for examination. One portion was examined and it was declared to be a round-celled sarcoma, and another portion was sent to a well-known pathologist in Germany. He also reported that it was sarcoma. Nevertheless, two or three months later some suppuration occurred and a piece of necrosed bone came away. The patient recovered without Coley's fluid.—Mr. BATTLE, in reply, recalled that the patient was shown last year when about to undergo the treatment. His own impression at the time was in favour of a syphilitic origin, and he therefore put him on iodide of potassium in increasing doses until he was taking as much as 25 grains three times a day. This he did for two months without any effect whatever on the tumours. In order to satisfy himself as to the exact nature of the growth sections were taken from the tumour over the sternum and also from over the clavicle. These were examined by Dr. Jenner and by Mr. Shattock, and from both he received the assurance that it was a case of spindle-celled sarcoma with some large cells. While under iodide of potassium the tumours had been slowly getting larger and the arm had become greatly swollen from pressure on the vessels. Having heard of Mr. Moullin's case he thought it worth while, in the interest of the patient, to try the effect of the treatment, especially as no operative treatment could be thought of. The result they could see for themselves. The patient was now strong and healthy and no trace remained of the tumours. He asserted his belief that it was a case of spindle-celled sarcoma which could not have been dealt with in any other way.

Mr. BATTLE showed a woman, aged sixty-four years, who exhibited in a remarkable degree the phenomenon of Hepatoptosis. When she was erect the liver came down into the iliac fossa, and even when recumbent the hand could be passed above it under the ribs.

Mr. BATTLE also showed a man with Three Sesamoid Bones, which were shown by skiagraphy to be mainly bone in place of a patella.

Mr. BATTLE also showed a lad, fifteen years of age, exhibiting Genu Retrorsum. The weakness of the joint only dated back five weeks but was probably due to some defect of development of the upper epiphysis of the tibia. He proposed to fit him with a special knee-cap.

Mr. BATTLE also showed a patient with Multiple Fibrous Bodies all over the skin, especially of the trunk and head. On the head the growths were soft and nævoid in appearance.

PATHOLOGICAL SOCIETY OF LONDON.

Exhibition of Specimens.

A MEETING of this society was held on Nov. 15th, the President, Dr. PAYNE, being in the chair.

Dr. T. D. LISTER showed a specimen of Sarcoma of the Right Auricle of the Heart associated with Sarcoma of the Right Kidney from a child, aged four years. The symptoms had been of short duration, hardly a month having elapsed between the first symptom of abdominal pain and the death of the child. The growth was a small round-celled sarcoma with considerable extravasation of blood. He suggested that the growth was primary in the heart and secondary in the kidney.

Mr. T. CARWARDINE (Bristol) communicated a short account of a Tumour of the Rectum which he had treated with success by excision of the rectum. On clinical and naked-eye examination it had all the appearances of an epithelioma, but the microscopic and naked-eye sections, which were exhibited, proved it to be a spindle-celled sarcoma with some large round cells and giant cells. Very few such cases are recorded and Mr. Carwardine had not come across any similar one in Great Britain. Their authenticity had been doubted, but the specimen proved their reality.—Mr. A. E. BARKER mentioned a case of primary sarcoma of the colon in a man, aged twenty-six years. This was removed, but secondary nodules of a similar nature subsequently recurred.—Mr. STANLEY BOYD mentioned a case of alveolar sarcoma of the rectum in a woman.—Mr. TARGETT thought that such specimens were rare except as secondary to lympho-sarcoma. The type of such growths was in general that of a spindle-celled sarcoma.—Dr. HUNTER quoted another case of new growth of the cæcum which microscopically appeared to be a round-celled sarcoma. There were disseminated growths in various parts of the body, and those in the stomach had formed ulcers and were on examination found to be of the same nature.—Dr. ROLLESTON doubted the rarity of round-celled sarcoma of the digestive tract. He himself had shown a specimen in the œsophagus and referred to a specimen in the museum of the Royal Free Hospital, to a specimen of melanotic sarcoma shown at the society by Mr. Heaton, and also to its occurrence in white horses.—Dr. A. VOELCKER recalled a case of spindle-celled sarcoma in the ileo-cæcal valve of a child and another of melanotic sarcoma of the rectum. He did not think that sarcoma of the rectum was extremely rare.

Dr. WILLIAM HUNTER showed specimens of: (1) Thrombus in the Left Ventricle; (2) Embolus Impacted at the origin of the Right Common Iliac Artery; (3) Corresponding Veins Secondarily Thrombosed; and (4) Recent Infarcts in the Kidneys and Spleen from a youth, aged nineteen years, who died on the twenty-third day of illness from typhoid fever. A rigor had occurred on the seventeenth day of illness with agonising pain in the middle of the right thigh; five hours later the limb was of a dead white colour and no pulsation could be felt in the arteries of the foot. Gangrene supervened and a line of demarcation occurred in the middle of the thigh. In the left ventricle of the heart was a pale thrombus. Impacted at the point of origin of the common iliac artery was an embolus of pale colour, similar to that in the heart; the artery beyond and all its branches were filled with soft red thrombus. He commented on the comparative frequency of embolism in the above condition, emboli in the spleen being not uncommon, emboli in the kidney being less frequent, and emboli in the liver being still less frequent. He thought that the present case was due to embolism and not to thrombosis, the character of the clot in the common iliac artery closely resembling that in the heart.—Mr. STANLEY BOYD doubted whether this condition was due to embolism; he thought it more probable that the condition was due to thrombosis, and suggested that from the situation of the pain the occlusion of the vessel had first taken place at the level of the profunda and had extended from that point. This view was further borne out by the occurrence of thrombosis of the corresponding veins.—Dr. F. H. HAWKINS (Reading) quoted a case of occlusion of the middle cerebral artery giving rise to hemiplegia in typhoid fever and in the same case a clot was found in the auricle. He quoted another case and stated that Osler's view with regard to these cases was that they were thrombotic and not embolic.—The PRESIDENT did not consider gangrene as uncommon in fevers; he thought that there was considerable difficulty in ascertaining whether such a condition was due to an embolus or to thrombosis, but was inclined to the view that the changes which occurred in the blood tended to the occurrence of the latter.—Dr. HUNTER, in reply, said that a distinction ought to be drawn between small areas of gangrene which occur frequently in fevers and gangrene of a whole limb. He was still of the opinion that the blocking of the artery was due to embolism on account of the position and character of the clot in the common iliac artery.

Professor ROSE BRADFORD showed a specimen of Carcinoma of the Gall-bladder removed from a patient aged fifty-three years. No other growth was found except a small nodule in the head of the pancreas. No gall-stones were found in this case. The growth occupied the whole of the common

bile-duct and extended up into the hepatic ducts. The common bile-duct and the cystic duct were completely occluded. The hepatic ducts in the liver were greatly dilated. The interest of the case depended upon the absence of gall-stones. The patient from whom the specimen was taken was perfectly well till 27 days before admission; she then had pain in the right hypochondrium and in 3 days became jaundiced. The patient died two months after admission to hospital. The jaundice was persistent and he thought that this ought to have pointed to the presence of new growth rather than to gall-stones, which condition he had suspected during life.—In reply to a question by the PRESIDENT, Professor BRADFORD said that there was no cirrhosis of the liver, but that it was fatty.—Dr. VOELCKER doubted if the irritation of calculi would produce carcinoma in the gall-bladder, although they were commonly associated. In 6 cases of primary cancer of the gall-bladder biliary calculi were present in 5, and in 9 cases of secondary growth in the liver no gall-stones were found. He instanced the rarity of new growth in the kidney in association with calculus.—Dr. HUNTER quoted a case of primary cancer of the bile-duct round an impacted calculus. In two cases of primary cancer of the gall-bladder biliary calculi were present in both. He did not, however, believe that cancer was directly due to the irritation of the calculi.—Dr. ROLLESTON quoted the observations of Siegert, who had shown that in cases of carcinoma of the gall-bladder biliary calculi were present in 95 per cent., whereas in secondary cancer of the liver biliary calculi were only found in 50 per cent. He was of the opinion that gall-stones were the exciting cause of the new growth.—The PRESIDENT said that cancer of the whole alimentary tract seemed to be increasing, not only in the tongue and rectum, but also in the digestive organs.

Dr. WILFRED HADLEY showed two specimens of Malignant Disease of the Lung. In the first case the growth began in the peri-bronchial tissue at the root of the organ and was seen running along the bronchial tubes, especially at the upper portion of the lung. The mediastinal tissues were also involved to a less extent, and the whole lung was contracted down on to its roots, the pleural cavity being filled with sanious fluid. The corresponding portion of the diaphragm was infiltrated with growth to the thickness of an inch, and secondary deposits were found in the mesenteric glands and the liver. Microscopically the growth presented the well-defined appearances of scirrhous carcinoma. In the second case the growth apparently began in the pleuræ, both sides being almost equally affected. Patches of flattened, cartilaginous material, varying in size, were seen scattered profusely over both pleuræ. The root of the lung was hardly implicated and the bronchial tubes and peri-bronchial tissue showed no infiltration. There were, however, a few deposits of rather softer growth scattered throughout the lungs, notably one at the base of the right one. The outer surface of the parietal pleura was thickened with growth, but it had not affected the serous lining. Secondary deposits were found in the heart, kidneys, and arm. Microscopically the growth showed mostly the appearances of encephaloid carcinoma, though in portions there was little, if any, fibroid stroma. The cells were not well-defined epithelioma, but more like those seen in large round-celled sarcoma, whilst throughout the whole tissue a considerable admixture of lymphoid tissue could be made out.

Dr. A. C. LATHAM showed specimens of Multiple Abdominal Dermoids. Two specimens were shown, one a dermoid of the right ovary, the other a dermoid in connexion with the stomach. Both these specimens were removed from the body of a woman who had died from acute general peritonitis set up by the perforation of the dermoid of the ovary. There were also numerous other small dermoids in connexion with the stomach, the descending colon, and the suprarenals. Nothing abnormal was found in the structure of the walls of these cysts and no nerve cells were observed. Dr. Latham pointed out that this condition was very rare and that extremely few cases of multiple dermoids had been recorded. Kolaczek, Fraenkel, and Hulke had each described a somewhat similar case. In discussing the question whether such a condition could be regarded as a malignant one Dr. Latham mentioned a case recorded by Montgomery of a teratoma in which the author considered that the recurrence pointed to a malignant type, but concluded by regarding the above generalisation of an innocent tumour to be due to transplantation.—Mr. TARGETT doubted the malignancy of the disease. He had seen epithelioma develop in the wall of a dermoid. He thought that dissemination of dermoid cyst occurred through transplantation of the cells.

Dr. FREYBERGER showed the Brain and Head from a case of Embolism of both Middle Cerebral Arteries. The patient, a woman, aged thirty-nine years, had a paralytic stroke, in consequence of which she was completely paralysed on her right side and aphasic. Fourteen days afterwards she became suddenly comatose and died nine hours after the onset of the coma. At the post-mortem examination an embolus was found in the left middle cerebral artery; the thrombus was firmly adherent to the inner coat of the artery. There was a second and much larger embolus in the right middle cerebral artery, succulent, not adherent to the vessel wall. Numerous anæmic infarcts were in the spleen and kidneys. There were cancer of the pancreas and liver and recurrent vegetating endocarditis. The case was interesting on account of (1) the concurrence of cancer and endocarditis; (2) the embolism of both middle cerebral arteries; and (3) because of the difference in the appearance of the two emboli due to the retrograde changes having taken place in the first embolus, whereas the second was comparatively recent.

CLINICAL SOCIETY OF LONDON.

Primary Sarcoma of the Knee-joint. — Hyperpyrexia. — Excision of Intestine. — Restoration of the Ulna by Insertion of a Rabbit's Femur.

A MEETING of this society was held on Nov. 11th, the President, Mr. LANGTON, being in the chair.

Mr. HOWARD MARSH read a paper on a case of Primary Sarcoma of the Synovial Membrane of the Knee-joint. A man, aged twenty-one years, was in St. Bartholomew's Hospital in September, 1892, for a swelling on the inner side of the left knee of fourteen months' duration, situated over the inner condyle of the femur, close to its articular border. It was of about the size of a small flattened Tangerine orange. Its nature was doubtful, but it was regarded as probably due to tuberculous periostitis, with thickening of the adjacent parts. When cut into, however, it proved to be situated entirely in the subsynovial tissue and to be of the nature of a new growth. It was freely removed by cutting it out, together with a zone of surrounding synovial tissue. The wound healed without complication. Microscopic examination showed that the new growth was a mixed spindle- and round-celled sarcoma. In March, 1895, the patient was admitted with a recurrence of the growth, and a mass as big as a marble was dissected out from the upper end of the original scar. This had the same structure as the original growth. In December, 1895, a nodule of the size of a small walnut was removed from the subsynovial tissue to the outer side of the joint. In August, 1896, two small nodules of sarcomatous growth were removed from the inner side of the joint, and in October, 1897, two small masses of a similar nature were detected and removed. In December, 1897, a mass could be felt at the posterior part of the joint, apparently as large as a walnut. This had displaced the popliteal artery, so that it could be felt close beneath the skin. The patient complained of severe pain down the back of the calf. There was no affection of the femoral glands. As the limb was now almost useless, and as the growth was extending, amputation was performed through the middle of the thigh. On examining the joint a growth as large as a bantam's egg was found springing from the synovial membrane at the back of the joint, and there was a second but smaller mass extending forwards into the joint between the condyles. These growths, like those previously removed, presented a microscopic structure of a spindle-celled sarcoma with some small round cells here and there. Mr. Marsh remarked that the case was one of considerable rarity. He had not himself met with any other instance of primary sarcoma of a synovial membrane. The history of the case was remarkable; it extended in all over at least six years. The disease remained entirely local, and the various recurrences which took place involved different parts of the membrane, so that in turn the inner, an outer, and the posterior portions of the synovial membrane were involved. Up to the present time the patient had remained well.—Mr. JONATHAN HUTCHINSON, Jun., mentioned a case in

which he removed a sarcoma growing from the posterior ligament of the knee-joint. Recurrence took place in the posterior ligament within the year and there was also a firm series of nodules in the subcutaneous tissue of the thigh. Amputation at the hip was performed, but the patient did not survive. No secondary growths were found in the internal organs. He asked if the growth in Mr. Marsh's case was a pure sarcoma or a fibro-sarcoma. In some ways the case resembled those of "regional tumours" which recurred repeatedly in the same position but did not become disseminated. Such cases had been described by Mr. Hutchinson's father and by Sir Thomas Smith, and the speaker quoted one in which during several years tumours of sarcomatous structure developed repeatedly in the abdominal wall, but did not occur elsewhere.—Mr. HOWARD MARSH, in reply, said that the microscopic characters were those of a fibro-sarcoma. He thought that the cases mentioned by Mr. Hutchinson were those which Sir James Paget described in his "Surgical Pathology" as "recurrent fibroids"—tumours having fibro-sarcomatous structure, recurring locally eighteen or twenty times, but without recurrence in any internal organs. There was a case probably of this nature affecting the cheek now in St. Bartholomew's Hospital in whom such local recurrences had taken place three times and now the growth was too large for removal.—The PRESIDENT mentioned a case in which a "recurrent fibroid" had been removed twelve times from the foot, after which no further recurrences took place.

Dr. NEWTON PITT brought before the society a case of Hyperpyrexia in a Neurotic Woman with Bronchiectasis. The patient, a young woman, aged twenty-six years, had been troubled with chest mischief with abundant expectoration and hæmoptysis since the year 1891. Her condition was supposed to be due to phthisis, until she came under the care of Dr. Boswell at Faversham, when it was recognised that she had bronchiectasis; she then passed under the care of Dr. Anderson, who sent her to Dr. Pitt in 1895. She had periodic attacks of severe dyspnœa lasting for two or three days, preceded by a diminution in the expectoration. In these attacks the temperature was found almost always to be much higher in the left than in the right axilla, the difference amounting to two or four degrees. The difference on the two sides of the chest amounted to a degree or so, and at times on the left side the temperature ran up to 110°F. occasionally to 114°, and once even higher. The dyspnœa was so intense that the temperature, which was not excessive, could rarely be taken in the mouth. The patient was so prostrate during the attacks that it was not possible to carry out extensive and systematic examinations of any kind. The rectal temperature was not extreme. The temperatures changed within an hour or so and the patient was bathed in the most profuse perspiration, which was not limited to one portion of the body. It was noticed that at the acme of the attack the left palpebral fissure was smaller than the right. The appetite failed absolutely and the urine was extremely concentrated during an attack. The pulse-rate ran up to 140 sometimes. During a period of seven weeks, while the patient was under observation, the amount of general bronchitis varied from time to time, but there were physical signs of a cavity at the angle of the left scapula. No tubercle bacilli were present in the sputum, but staphylococcus aureus, another coccus, and a sarcina were found, the last-named being especially abundant. As an example of the temperatures it was noted once that when the temperature in the right axilla was 102° that in the left was 109·7° and in the mouth 99·4°. Many text-books refer to the albuminuria of fever. This is surely a misnomer, as when there is albumin in the urine it is, together with the fever, the result of a toxic process and is not proportional to the severity of the fever but to the intensity of the toxæmia. We ought to speak of toxic albuminuria. In this case there never was a trace of albumin in the urine in spite of the temperature being so high. The patient when last heard of was still liable to these attacks and she remained in much the same condition. Dr. Pitt did not wish to offer any explanation of these extraordinary temperatures, but merely to put the case on record. He thought that the temperatures were reliable and that the fact that with the temperature taken every four hours for many weeks by different people the more or less persistent difference between the temperatures in the two axillæ must be accepted as a fact. The extreme prostration of the patient and the dyspnœa present prevented her from taking the slightest interest in her temperature. In similar cases it has been suggested that the patient has artificially raised the temperature of the thermometer by friction, &c., but by any such means it is only possible to raise the temperature slightly, and it is quite impossible to do it without detection when a patient is under careful observation. In a similar case mentioned in a debate at this society by Dr. Mahomed in 1891, where a patient had temperatures of 114° on several occasions and once up to 128°, he came to the conclusion that there must have been fraud although he could not detect it. Still it is by no means certain that this conclusion was justified even in that case.—Sir DYCE DUCKWORTH wished for an expression of opinion from physiologists as to the possibility of such localised hyperpyrexia. All the recorded cases had been in women of a neurotic temperament and in many fraud on the part of the patient had been proved, and his own conviction was that the others were undiscovered frauds practised by mentally disordered patients, whose ingenuity in this direction was without limit.—Dr. BEZLY THORNE, with reference to the occurrence of unilateral symptoms in a neurotic patient, mentioned the case of a woman suffering from asthmatic attacks which came on rapidly, caused great alarm, and then passed off. On one occasion he found the heart beating under the right nipple although there were no signs of pleural effusion, an observation confirmed by Sir William Jenner. The condition could not have been due to transposition of the viscera as it passed off after a few days.—Mr. CLEMENT LUCAS mentioned a case in which a patient was detected heating the thermometer in a poultice and Dr. SIDNEY PHILLIPS one in which a cup of tea was used for a similar purpose.—Mr. D. DREW mentioned the case of a young woman who had been operated on for necrosis of the frontal bone and who had subsequently repeated attacks of hyperpyrexia, the temperature reaching 109°, for which no cause could be found.—Dr. KINGSTON FOWLER said that in nearly all cases of bronchiectasis there was some rise of temperature and dyspnœa attending any diminution of expectoration, but he had never seen the high temperatures described by Dr. Pitt. He observed that oral and axillary temperatures were unreliable, and in doubtful cases the rectal temperature alone could be trusted.—Mr. G. EASTES referred to the well-known case recorded in 1875 by Mr. Teale of Scarborough. Physiologists then denied that such temperatures were compatible with life.—Dr. PITT, in reply, said that his patient was so ill at the time that he thought that it would have been impossible for her to have played any tricks and she was most closely watched. In the Guy's Hospital Reports for 1893 Dr. Bryant had collected 100 cases of hyperpyrexia, including Mr. Teale's case.

Mr. CLEMENT LUCAS related the case of a boy, aged five years, from whom he had removed successfully 24½ in. of Small Intestine by the aid of a Murphy's button. The child had suffered every year from birth with bronchitis and from the age of a fortnight it had been noticed that there was a swelling on the left side of the scrotum which always remained irreducible. An operation on the hernia was attempted by a surgeon in the country on April 11th, 1897. Vomiting occurred on the following day and the patient's condition growing rapidly worse he was sent up to Guy's Hospital to be under the care of Mr. Lucas. The scrotum was much inflamed and peristaltic action could be seen beneath the skin. He was first seen by the assistant surgeon on duty, who laid open the scrotum and found fæcal extravasation and two wounds in the gut, which he attempted to close by suture, but did not reduce the bowel into the abdomen. The patient's condition remained critical and on April 17th it was found that the sutures had given way and that fæces were being discharged through the scrotum. In spite of great care the constant discharge of fæces caused ulceration of the surrounding skin. On April 25th the temperature rose to 104° but no general abdominal tension or tenderness occurred. From April 27th to May 18th the temperature ranged between 99° and 100°; almost the whole of the contents of the bowels were discharged through the fistula in the scrotum. On May 18th, 1897, Mr. Lucas determined to perform resection of the bowel with the object of restoring the continuity of the intestine, curing the fæcal fistula, and getting rid of the hernia. The bowels were cleared and the fæcal fistula was thoroughly washed out with an antiseptic lotion, then all the ulcerated parts were firmly bound up with aseptic pads. The skin of the abdomen being disinfected a central laparotomy incision was made under A.C.E. mixture. The bowel passing out and returning through the left inguinal canal was

surrounded by sterilised pads. On the parietal side the two pieces of bowel were ligatured near the internal abdominal ring and on the proximal they were clamped. Having divided between the clamps and ligatures Murphy's button was used to give end-to-end continuity to the bowel. The ligatured distal ends were further secured by turning in the mucous membrane and sewing over them. The pads were removed and the abdominal wound was sewn up. Attention was now turned to the scrotum, which was laid freely open, and the damaged and adherent bowel was separated by the fingers. The sealed ends within the abdomen were pulled through the inguinal canal. When detached and measured the bowel removed was found to be 27½ in. in length. The suppurating scrotum was thoroughly washed and packed with iodoform gauze. There was little to remark on in the subsequent progress towards convalescence. The temperature, which was 100° when the operation took place, fell to normal on the second day, and never again reached 100°. On the fourth day the laparotomy incision was found to be united primarily. Ten days after the operation the temperature became regular at 98·5°. As the button had not come away on the twenty-second day a dose of castor oil was given and it was passed on the twenty-third day after the operation. Mr. Lucas attributed the successful result in this case largely to the care which was taken to prevent any contamination of the laparotomy wound or peritoneum through the fæcal fistula, and to the method he adopted of closing the ends inside the abdomen before drawing the bowel out through the scrotum. The patient was shown at the meeting eighteen months after the operation in good health and free from hernia.—Mr. HOWARD MARSH mentioned a case of a child who had an abscess in connexion with the appendix which had existed for about a month. He opened it and then it did well for six weeks, and then fæcal extravasation occurred. He could not close the fistula which formed, so he performed laparotomy and excised the cæcum, joining the ileum to the colon by end-to-end anastomosis.

Mr. ARBUTHNOT LANE showed two cases illustrating the Restoration of the Shaft of the Ulna by the Insertion of the Femur of a Rabbit. One of the patients was a child the subject of a congenital abnormality of the shaft of the ulna. She had suffered from a progressive incapacity and deformity of the forearm and hand since birth. It hung in a position of considerable flexion and abduction when the child attempted to use it, which she did very imperfectly indeed. The ulna consisted of two separate parts, the pointed extremities of which overlapped and the axes of which varied considerably in direction. The lower end of the ulna was situated considerably above that of the radius. He exposed both fragments freely and separated them from the surrounding parts. Extension was made on the lower fragment till the hand assumed its normal position. The femur of a rabbit was split longitudinally and its halves were wired securely to the fragments so as to bring their longitudinal axes into their normal relationship to one another and to retain the lower fragment on a level with the lower end of the radius. The result of this operation was most satisfactory both as regarded the removal of the deformity and the restoration of the normal functions to the part. The second was that of a man, aged nineteen years, who lost the shaft of the ulna in 1896. He was admitted into Guy's Hospital in September, 1898, when the radiograph showed that there extended from either extremity of the ulna a fine spicule of bone. An incision was made along the length of the ulna and these spicules were exposed and freed from the soft parts in which they were embedded. A femur of a very large rabbit was then wired securely to the ends of the ulna, the spicules being included in the loops of wire. The result as shown by the skiagraph was most satisfactory, and Mr. Lane hoped at a later date to render the usefulness of the arm even more complete by removing some of the new bone which had been thrown out about the extremities of the ulna in consequence of the original inflammation.

OPHTHALMOLOGICAL SOCIETY.

The Accommodation Theories of Helmholtz and Tscherning.—Myxo-fibroma of the Optic Nerve Sheath.—Toxic Amblyopia due to Lead.—Exhibition of Cases.

AN ordinary meeting of this society was held on Nov. 10th, Mr. F. RICHARDSON CROSS, Vice-President, being in the chair.

Mr. PRIESTLEY SMITH read a paper entitled "The Accommodation Theories of Helmholtz and Tscherning: Suggested Explanation of their Discrepancy." He said that Tscherning's theory was sharply opposed to the generally accepted explanation but was based on very accurate observations. The question was whether the accommodation change in the lens depended on slackening of the zonula (Helmholtz) or on tightening (Tscherning). The anatomical arrangement of the parts concerned and nearly all clinical and experimental facts, especially the observations of Hess, which showed that during strong accommodation the lens was often tremulous and displaced downwards by gravity, strongly favoured the former view. Tscherning, however, had proved that during accommodation the anterior lens surface changed from a globular to a hyperboloid curve—that is, tended to become conical—sharper at the centre of the pupil and flatter towards the margin, and this, he contended could only be caused by tightening of the zonula supplemented by internal resistance at the pole of the lens. Mr. Priestley Smith's object was to show that this change could be equally well explained by slackening of the zonula. Let the case of an elastic circular hoop of steel first be taken. Traction at the sides transformed it into an ellipse; the curve flattens at the poles and sharpens at the equator, and somewhere intermediate between these regions was a point where no change took place. The position of this point and the general contour assumed by the hoop were governed by the varying resistance which it offered at different points. By modifying the resistance the curve could be modified at pleasure. Let the resistance at the pole be increased and the conical form observed by Tscherning was obtained; let it be increased towards the equator and the opposite effect—namely, a flattening at the pole and a sharpening of the curve elsewhere—was obtained. Mr. Priestley Smith exhibited a model consisting of an elastic hoop of metal bent so that it assumed in exaggerated form the shape of the lens during accommodation—namely, conicity of the anterior surface. It was strengthened with supplementary elastic strips in such a way that its resistance or rigidity increased progressively from the pole towards the equator. Traction at the equator, representing tightening of the zonula, reduced the conical to a spherical form. In the latter condition it represented the lens when subjected to the influence of the zonula; in the conical state it represented the accommodative change which occurred when the zonula was slackened by contraction of the ciliary muscle. It would be easy to theorise as to the resistance proper to the crystalline lens and to show reason for supposing that the arrangement of the fibres was such as to render the resistance progressively greater towards the equator, but Mr. Priestley Smith said he would not go beyond demonstrable facts. What he desired to show was that the changes which Tscherning had demonstrated with such admirable skill and ingenuity were not incompatible with the theory of Helmholtz. To his mind they were explained more satisfactorily by this theory than by any other.—Mr. CROSS, Mr. LANG, Mr. ERNEST CLARKE, Mr. BASS, Mr. DOYNE, and Mr. HARTRIDGE took part in the discussion.—Mr. PRIESTLEY SMITH said, in reply, that the continuous growth of the lens was inconveniently obvious in the enlargement and sclerosis of the organ with advancing age, both changes representing the steady development of enclosed epithelial elements in a site where there were no means of escape. The lens when free actually took the shape he had described, of which the model presented was a gross exaggeration. Helmholtz and Tscherning demonstrated the change in shape of the lens during accommodation by duplicating the image reflected from its surface. The anterior capsule was thicker than the posterior and the softness of the juvenile lens was very remarkable, needing the slightest force only to change its shape. He animadverted strongly on the manner in which Helmholtz's measurement of the antero-posterior diameter, 3·7 mm., had been copied into various text-books and monographs, whereas the more recent measurements, 4·5 to 5 mm., were much nearer the truth.

Mr. ARNOLD LAWSON reported a case of Myxo-fibroma of the Optic Nerve Sheath. The patient was a well-nourished girl, aged two years. The sight of the left eye had been thought defective for three months; it had been getting prominent for a few weeks. The personal health and family history were both good; the left eye was slightly prominent, but its movements were good and the pupil acted to light; the fundus was normal, except that the veins were rather full. Five weeks later there was decided proptosis, the pupil was inactive, the optic nerve was pale, and the eye was blind; the

movements, however, were good. From this time the symptoms progressed rapidly till the time of operation, five months after the first visit; the disc was then chalky white, the eye was proptosed forwards and slightly downwards, and the movements were strictly limited. The eye and contents of the orbit were removed; the tumour, which was as large as a partridge's egg, nearly filled the orbit and completely surrounded the optic nerve from the lamina cribrosa to the optic foramen. The child is now, six months after operation, in good health. The optic nerve was not involved in the tumour, which arose from the outer dural sheath. Microscopically the growth was found to be a myxo-fibroma. Mr. Lawson thought it inadvisable to attempt to save the eye in these cases; if the growth extended to the optic foramen, this latter should be scraped out. Myxo-fibromata were very rare; as a possible origin he suggested that a portion of the mesoderm intended to form the vitreous became included in the sheath of the optic nerve during its closure.

Mr. HERBERT H. FOLKER (Stoke-on-Trent) reported 5 cases of Toxic Amblyopia due to Lead which occurred among employés in the pottery district. 1. A female, aged twenty-six years, had worked in the dipping-house two years; on four occasions she had had symptoms of lead poisoning, colic, vomiting, and headache. Vision failed in the left eye and four days later in the right; the failure began with flashes of light and coloured vision and rapidly proceeded to total blindness. The pupils were dilated and inactive, the optic discs were pale and blurred, the retina was œdematous, and there were several hæmorrhages in it. There was some albumin in the urine. 2. A female, aged twenty years, six weeks after beginning work as a lithographer had headache and colic; after a year she had sudden total loss of colour vision, followed by sensations of flashes of light. There was typical neuro-retinitis with hæmorrhages. In this case vision improved. 3. A male, aged sixteen years, employed in the dipping-house, after two years had diplopia with headache, colic, and vomiting; the vision failed shortly after, and in six weeks he was totally blind. He also had coloured vision for a time and flashes of light. The optic discs were very white and the arteries were reduced to white cords. He had a trace of albumin and a gum line. 4. A female, aged eighteen years, employed in the dipping-house, after three years had headache and vomiting; the vision failed in one night; she had flashes of light of various colours. The optic discs were intensely white. 5. A female, aged eighteen years, employed in the dipping-house, had had for ten months several attacks of headache, colic, and vomiting; then the sight failed, and in two months she was blind. The optic discs were white and the vessels were small. In this series of cases all other toxic agents were excluded. None of the patients who had worked in the dipping houses responded to treatment, the case of the lithographer did; in the former the poison was introduced by absorption through the skin, in the latter by inhalation. With one exception all the cases experienced coloured vision. Treatment was by iodide of potassium or strychnine by the mouth or hypodermically.

The following cases were shown:—

Major M. T. YARR, R.A.M.C.: Case with Fundus Changes and Fibrous Tissue Formation in Vitreous, ? Congenital.

Mr. TREACHER COLLINS: Case of Monilethrix affecting Eyelashes and Eyebrows.

Mr. DOYNE: Case of Pigmentation of the Conjunctiva.

PATHOLOGICAL SOCIETY OF MANCHESTER.

Exhibition of Cases and Specimens.—Pathology of Cancer.

A MEETING of this society was held on Nov. 9th, Dr. R. B. WILD, the President, being in the chair.

Professor DIXON MANN showed an Aneurysm of the Abdominal Aorta in which rupture, accompanied by profound collapse, occurred three days before death. The patient recovered from the collapse and although the radial pulse could plainly be felt no pulsation of the tumour was perceptible. After death, which took place suddenly, it was found that subperitoneal hæmorrhage had taken place by which the pulsation of the aneurysm was masked and which also to some extent impeded the communication between the sac and the aorta.

Professor MANN also exhibited some Blood from a case of Acute Fatal Poisoning by Water Gas. The presence of carbon monoxide hæmoglobin was made evident by means of Kunkel's test (a 3 per cent. solution of tannic acid), and in order to afford a means of comparison a specimen of normal blood was treated in the same way. The blood which contained the carbon monoxide hæmoglobin yielded a precipitate of bright whitish-pink colour, whilst that thrown down from the normal blood was the colour of *café au lait*.

Dr. W. H. B. STODDART read a paper entitled "A Contribution to the Pathology of Cancer." The paper dealt with a case of cancer which had come under Dr. Stoddart's observation at Prestwich Asylum. The patient (an alcoholic dement) suffered for some months from obstinate constipation and died from perforative peritonitis. Post mortem a growth was found extending along the whole length of the mesenteric border of the stomach, small and large intestines, to the anus. It was limited to the intestine and microscopical examination showed it to be a spheroidal-celled carcinoma. Discussing the pathology of the case, Dr. Stoddart showed that there were two possible hypotheses to explain the anomalous distribution of the growth. The first was that the cancer began in the stomach, the rest of the intestinal tract being infected through the food-stream, the infective particles becoming arrested at the junction of the intestinal and mesenteric lymphatics; the second was that the whole growth arose on account of a rod of sub-notochordal mesoblast with dormant hypoblastic characters, assuming those characters in advanced life and giving rise to the epithelial growth. The specimen was shown, together with sections and microphotographs.

Mr. E. STANMORE BISHOP and Dr. FOTHERGILL showed an Ovary and Tube, with photo-microscopic sections and drawings. The specimen was removed by Mr. Bishop from a patient who had long suffered from pelvic mischief of infective origin following abortion. The clinical interest of the case lay in the fact that the symptoms and signs of ectopic pregnancy were exactly simulated. After an attempt to remove the mass by the vagina, during which a cyst containing blood was ruptured, the abdomen was opened, and after separating dense adhesions the ovary and tube were removed. The pathological interest of the case lay in the connexion which it illustrated between septic ovaritis and the origin of cystic disease of the oöphoron. The ovary was full of small cysts caused by the interrupted development of Graafian follicles, but closely resembling the early stages of ovarian cysts which are as a rule examined only when they have attained larger dimensions.

LEEDS AND WEST RIDING MEDICO-CHIRURGICAL SOCIETY.

Tetany.—Enteric Fever complicated with Pregnancy.—Pemphigus Foliaceus.—Exhibition of Cases and Specimens.

A MEETING of this society was held on Nov. 4th, the President, Mr. EDWIN LEE, being in the chair.

Mr. MAYO ROBSON read a paper on Tetany and Tetanoid Spasms associated with Gastric Dilatation treated Surgically. He related three cases and referred to others in which he had seen these complications associated with simple pyloric stenosis. He thought that the complications were much more common than was generally recognised, as attention had only been drawn to the more serious and almost universally fatal cases. In the cases which he related operation had been undertaken successfully and in all the cases intervals between the severe tetanoid attacks had been selected. He thought that the disease might be looked on more hopefully if the cases were treated surgically at an earlier period before the extreme manifestations of tetany had supervened.—Dr. TREVELYAN expressed a doubt as to whether Mr. Robson's cases could be really classed as genuine gastric tetany. Even Case 1, which resembled strychnine poisoning, was anomalous. He looked upon gastric tetany as a very rare disease. In the severe and dangerous attacks such as he had seen he thought that no other treatment was admissible than emptying and washing out the stomach, stimulation, and supplying the body with fluid by means of saline rectal injections or subcutaneous infusion, &c. He drew special attention to the fact very generally noted that the attack of tetany followed upon prolonged vomiting in cases of gastric dilatation. It was important to treat this vomiting, and if other means failed operative treatment directed to the gastric dilatation might have to be considered. Dr. Trevelyan looked upon the intoxication theory of gastric tetany as the most satisfactory,

but as yet it had not been definitely established.—Dr. CHURTON, while recognising the evidence of a connexion between gastric dilatation and tetany, thought that there must be some other factor necessary for the production of the disease, inasmuch as gastric tetany seemed to be extremely rare, although separately both gastric dilatation and tetany were common. Indeed, from cases which had been related to him recently during a consultation upon a case of typical tetany in a woman, aged forty-eight years, he inferred that this disease was of much more frequent occurrence in some districts than is usually supposed and that it was sometimes fatal.—Dr. CHEETHAM bore evidence as to the severity of one case of gastric tetany referred to by Dr. Trevelyan. There was no gastric dilatation, but the attacks always followed upon vomiting. The patient was now well.—Dr. GRIFFITH and Mr. LITTLEWOOD agreed with Dr. Churton as to the rarity of gastric tetany. Mr. Littlewood was under the impression that he had seen something of the kind in some cases after gastro-enterostomy.—Mr. ROBSON replied.

Mr. A. E. PEARSON described a case of Enteric Fever complicated with Pregnancy in a woman, aged eighteen years, who was admitted into the Leeds Fever Hospital on Sept. 8th, 1898. From the time of the cessation of the menstrual periods her health had been indifferent. She had suffered from morning sickness, which gradually became more frequent. There was also headache. On Sept 4th she took to her bed. On admission the temperature was 104°F. Signs of enteric fever, diarrhœa, meteorism, irregularly intermittent temperature, rapid pulse, and vomiting, especially in the morning, marked the succeeding days. Subsequently the vomiting and diarrhœa declined considerably until the third week of the patient's stay in hospital, when the vomiting became more frequent, the pulse was 140 to 160, and thready, and the meteorism rapidly increased. On several occasions the patient became so seriously collapsed that perforation was diagnosed, but under treatment the urgent symptoms subsided. In the fifth week marked jaundice supervened, there was considerable tenderness in the hepatic region, and the liver dulness appeared to be increased. On Oct. 12th as suppuration was suspected the liver was explored with a negative result. The patient aborted on the same evening. The fœtus measured about 4 in. in length and the placenta was adherent. The next day the patient was much easier. The vomiting ceased and the circulatory disturbance declined. The progress towards recovery was almost uninterrupted.—Mr. LITTLEWOOD, who had explored the liver, spoke of the harmlessness of the procedure.—Dr. TREVELYAN suggested that the jaundice was due to a typhoidal cholecystitis. Dr. WRIGHT, Mr. MAYO, and the PRESIDENT also joined in the discussion.

Dr. HELLIER read notes of a case of Pemphigus Foliaceus which attacked an apparently healthy female child on the ninth day after birth. The disease was virulent and rapidly fatal. On the tenth and eleventh days huge flaccid bullæ formed on the trunk, the face, and the limbs, and when the child died early on the twelfth day the skin of about half the surface of the body was either covered by enormous serous clots or entirely denuded of its cuticle. The child looked as though she had been scalded by boiling water. The cause of the attack was unknown. The mother was a healthy primipara and the father was a strong and healthy man. There was no specific history in either parent. The child was born in a healthy middle-class house and neighbourhood and received every care as regards cleanliness and nursing. There was no known source of navel infection. The mother made an excellent recovery from childbed. Dr. Hellier said that such cases are not necessarily specific. The disease is rare and very fatal. It is said to have occurred in epidemic form.—Dr. LIDDELL did not think that Dr. Hellier's case was one of syphilis, as it presented none of the distinguishing characteristics of that disease. Pemphigus neonatorum was considered to be due to septic causes in connexion with the surroundings of childbirth. Pemphigus foliaceus was a rare disease usually running a chronic course, while Dr. Hellier's case was one of exceptional rapidity. Under the term "dermatitis exfoliativa neonatorum" Ritter has described a class of cases in infants some of which bear a resemblance to pityriasis rubra, while others presenting flaccid bullæ like pemphigus foliaceus are regarded by some authorities as cases of that disease.—Dr. CHURTON referred to several cases of pemphigus and discussed the treatment.—Mr. KNAGGS mentioned a case in which continuous bath treatment was followed by recovery.—Mr. MAYO referred to a case and Dr. HELLIER replied.

The following cases, pathological specimens, &c., were exhibited:—

Dr. MANTLE: A case of Scleroderma with Rheumatic History.

Mr. MAYO ROBSON: Extra-uterine Gestation Sac at Eleventh Month removed entire.

Dr. HELLIER: (1) Uterus with Myomatous Tumour removed by Abdominal Hysterectomy; and (2) 30 Gall-stones removed by Cholecystotomy.

Dr. ALLAN: (1) Senile Uterus showing Ovarian Cysts; (2) Liver showing Malignant Disease, &c.; and (3) Kidneys from a case of Pernicious Anæmia.

Dr. CHADWICK: A case of Diphtheritic Peripheral Neuritis associated with Right Hemiplegia.

Mr. LAWFORD KNAGGS: Fibro-cystic Tumour of Uterus.

Dr. T. WARDROP GRIFFITH: (1) Specimen showing one of the possible relations of Mitral to Aortic Disease; and (2) Dissection of a Malformed Hand.

Mr. LITTLEWOOD: (1) Ovarian Cyst with Twisted Pedicle (specimen); and (2) Vermiform Appendix with Perforation (patient and specimen).

Dr. BARRS: A case of Spasmodic Torticollis.

Mr. MOYNIHAN: (1) Congenital Absence of Femur; and (2) Cyst of Kidney, partial nephrectomy.

Dr. TREVELYAN: (1) A case of Rapid Recovery from a Paraplegia due to Spinal Caries; and (2) a case of Relapsing Paralysis of One Leg of Obscure Causation.

Dr. WARDROP GRIFFITH showed a specimen of Gangrene of the Lung produced by the breaking down of a caseating bronchial gland which had caused a communication between the œsophagus and the lung. The patient was fifteen months old and was under treatment for cough. A widely distributed tuberculous lesion was found after death.

LIVERPOOL MEDICAL INSTITUTION.

Ringworm.—Exhibition of Specimens.

A MEETING of this society was held on Nov. 10th, Mr. F. T. PAUL being in the chair.

Dr. J. C. M. GIVEN communicated an interesting and well-illustrated paper on Clinical and Microscopical Varieties of Ringworm. After a *résumé* of the work done by various investigators up to the present time he gave a detailed account of his own researches, which consisted of a very thorough examination of 50 consecutive cases met with in the out-patient department of the hospital. He furnished a complete description of his methods, &c. His cases were arranged in three clinical groups: (1) cases in which the scalp was scaly and rough, with broken stumps of hairs showing a white sheath; (2) cases where the patches were smooth and there were few stumps; and (3) cases in which suppuration had occurred. His investigation was to ascertain (1) if these clinical varieties were associated in any way constantly with either of the three main varieties of the ringworm fungus and (2) whether the rapidity of cure was in any way related to the variety of fungus present. The microsporon audouini was found in 39 cases, or 85 per cent. Of these 31 were scaly, 5 bald, and 3 suppurative. The megalosporon endothrix was present in 15 per cent. The megalosporon ectothrix was not found in any scalp cases. In all cases of suppuration in the scalp the microsporon was found, including one well-marked case of kerion. When ringworm occurred in several members of the same family the parasite was always found to be of the same variety. He found that the ease with which the cases yielded to treatment in no way depended upon the variety of organism present. The paper was well illustrated by numerous excellent microscopic preparations and by a series of micro-photographic lantern transparencies.—Dr. G. G. STOPFORD TAYLOR had followed Dr. Given's investigations with great care and pleasure. The cases came from his (Dr. Taylor's) clinic and he could confirm clinically all Dr. Given had said.—Dr. BARENDT alluded to the confusion which still prevailed in this country as well as on the continent as to what should be the accepted criteria in deciding upon the plurality of the ringworm fungus. For his own part he considered he had evidence that megalosporon might become microsporon under modification of the culture media. He agreed that Dr. Given's three clinical types of ringworm were in the main correct and, like him, questioned whether a distinct variety of trichophyton produced always the same clinical results.—Dr. ABRAM, Dr. BUCHANAN, Dr. GRÜNBAUM, Dr. LOGAN,

Mr. PAUL, and Dr. N. RAW also entered into the discussion.—Dr. GIVEN replied.

Dr. ALEXANDER showed:—1. The Cerebellum of a boy, aged eleven years, with an Abscess occupying the greater part of the right hemisphere. Basilar meningitis was also present. The patient was brought by a drunken mother into the workhouse hospital a few days before death. Vomiting and retraction of the head were present and later coma supervened. No history was given and other circumstances prevented exploration being undertaken. Afterwards it was learnt that the boy had been operated upon for mastoid disease in another hospital a few weeks previously and had been discharged "well." 2. Three specimens of a rare variety of Sebaceous Tumour—probably an adenoma. They were all removed from the same subject and two of them were partially calcified. 3. Epithelioma of the Cheek and Ear. 4. Sarcomatous Epulis. 5. Papilloma of the Penis.

Mr. HAWKINS-AMBLER showed: (1) 132 Gall-stones which he had removed while exploring a carcinomatous gall-bladder; and (2) a specimen of Tubal Pregnancy removed by operation.

Dr. W. T. ALLEN exhibited a large Aneurysm of the Innominate Artery which caused death by rupturing into the pleura in a man aged forty-three years.

Mr. R. A. BICKERSTETH showed:—1. An Intra-testicular Hæmatocele as the result of an injury. A large quantity of blood had been effused within the tunica albuginea and the glandular substance of the organ was pressed aside. 2. A microscopic specimen of a Pedunculated Fibroma of the Tongue.

Dr. BUCHANAN showed:—1. Spermatozoa from Stains in Rape Cases. In one specimen the stains were recent, in another thirteen months old. From both excellent specimens of spermatozoa were obtained. 2. Microscopic Interstitial Fibroids of the Uterus.

Dr. E. T. DAVIES showed what is happily nowadays a rare pathological specimen—an enormous Ovarian Cyst removed post mortem from a woman, aged thirty-three years. She had persistently and absolutely refused operation. The abdomen became enormous, the legs were swollen and cracked and discharged great quantities of serum. Emaciation became extreme and dyspnœa great. She died somewhat suddenly from rupture of the cyst. Post mortem the peritoneal cavity was found to be full of ovarian fluid. The tumour was the usual multilocular cyst with one large and many small cysts, and could have been easily removed, there being no important adhesions.

Dr. T. B. GRIMSDALE showed a microscopic section of the Uterine Scar two months after Cæsarean section. The patient died from carcinoma of the rectum, for which colotomy had been done some months previously. Post mortem the silk sutures in the uterus were found to be surrounded by small, whitish, nodular growths, which were thought to be cancerous, but the microscope showed them to be fibrous, and the question was raised whether silk was more likely to produce these irritative fibromas than was catgut.

Mr. THELWALL THOMAS exhibited a Tuberculous Kidney removed by Nephrectomy. It contained several small abscesses and miliary tubercles were dotted all through it.

A considerable discussion followed, in which Mr. PAUL, Dr. WARRINGTON, Dr. ALEXANDER, Dr. E. T. DAVIES, Mr. A. E. DAVIS, Dr. CARTER, Mr. LARKIN, Dr. ARCHER, and Dr. BUCHANAN took part.

EDINBURGH MEDICO-CHIRURGICAL SOCIETY.

Exhibition of Cases and Specimens.—Tuberculous Neuritis.—Acute Yellow Atrophy.

THE first meeting of the seventy-eighth session of this society was held on Nov. 2nd, Dr. WILLIAM CRAIG, Vice-President, being in the chair.

Mr. ALEXIS THOMSON showed a patient after Resection of the Pylorus. She was the subject of a large and visible pyloric tumour of eight months' development when she came under notice. Pyloric carcinoma was diagnosed; it seemed so large as to be quite beyond surgical relief, but it was considered advisable to have a look at it. There was no dilatation of the stomach; simple diet could be taken; there was not much sickness nor much pain; her weight had fallen from 12 st. to 8 st. 3 lb. On operating a large carcinomatous tumour of the pylorus was found and removed; there were no glands involved. It was the largest tumour Mr. Thomson had removed in cases of pyloric carcinoma. Since the operation in July the patient had gained 2 st. 4 lb., never had an untoward symptom or pain, and is now perfectly restored to health. The operation was performed by Kocher's method, a Murphy's button of ⅞ in. being used, which was passed on the thirteenth day.

Dr. ALLAN JAMIESON showed a case of Tylosis of the Palms and Flexor Surfaces of Both Hands, associated with hyperidrosis and with nævus neuroticus. For the latter condition nothing had been done, but for the ichthyosis manifestation—i.e., the tylosis—resorcin plaster had been applied and pumice rubbed on. The hands had under this treatment become soft and the fingers could be extended.

Dr. AITCHISON ROBERTSON showed a large Tonsillar Calculus, in length about 1½ in. and in weight about 1 oz.; it was probably the largest yet recorded. For many years the patient had been subject to repeated attacks of tonsillitis; ultimately, outside the neck, a large abscess formed, which was opened. Some glands were at the same time removed; the opening healed well, and there was no more tonsillitis or other trouble for two years. The patient then gradually felt difficulty in swallowing; suddenly one night he was awakened by a choking sensation and the accompanying violent cough resulted in the extrusion, without any hæmorrhage, of the large calculus shown. There could be felt a depression in the tonsil in which the calculus had been embedded.

Dr. ALEXANDER JAMES read a paper dealing with the clinical aspects of Tuberculous Neuritis He noted that any part of the nervous system might be affected—cranial nerves, phrenics, &c. It was remarkable for its tendency to appear, disappear, and again reappear. On account of this transitory character it was by many said to be a hysterical manifestation. Now it was generally ascribed to vaso-motor changes. Dr. James, however, thought that the affection was due to poisoning of the nerve tissues by tuberculous toxins. The condition had been discussed by many observers. He narrated several cases in illustration of his thesis. The first case was that of a man, aged forty years, with well-marked phthisis and hæmoptysis. The skin sensibility over the legs and feet was slightly impaired; formication had been present and there was a degree of tenderness in the muscles. Evidences of neuritis became more marked in both legs, as shown by drop-foot, loss of power of extension, and pain in the muscles. The reflexes were absent and electrical reactions diminished. In this cases the motor paralysis was greater than the sensory. The second case showed that sensory tracts may be more affected than the motor. The patient was a boy, aged sixteen years, suffering from lupus and tuberculous disease of the tarsus together with advanced phthisis. The larynx was so affected that tracheotomy had to be performed on account of the stridor and dyspnœa. Shortly after this he lost feeling in the right arm and leg and to a lesser extent in the right side of the face. There were no motor affections. This condition lasted three days but had entirely disappeared in a week. A month later, however, the right arm and leg were numb and to a less extent the right side of the face and trunk. Sensibility to heat and touch were also lessened. He complained of pain on the right side of the head when it was combed. The muscles of the affected arm and leg were tender and wasted. The knee-jerks were increased, especially on the right side. The third case was that of a man, aged twenty-two years, a miner; the motor nerves were chiefly affected, but the duration was short. He complained of loss of power in the left arm during four months with stiffness of the wrist. He exhibited marked disease of the left lung. The left arm as a whole was distinctly smaller than the right, the muscles being considerably atrophied and paralysed. The sensibility to touch, pain, and temperature was hardly affected, but the muscles were painful. Electrical and reflex excitability were increased. The left knee-jerk was more marked than the right and ankle clonus was present in the left leg. The left wrist was affected by tuberculous disease. Under treatment the motor power increased remarkably. The fourth case was that of a stable-boy, whose illness began suddenly five months previously with pain in the left foot without history of sprain. Next morning the foot was swollen and painful. The swelling went down under treatment but the pain remained. He looked healthy and no disease was evident except slight thickening on the inner side of the left tarsus. Sensation was normal, but voluntary

power in the left thigh and leg was impaired and the muscles were atrophied. The knee-jerks were exaggerated in both legs but especially in the left. Electrical excitability was lessened. He improved for a time, but the left tarsus showed marked tuberculous disease and the left foot required amputation. The increased irritability gradually lessened in degree until in six months it had gone from the right leg. The cause of the irritability was doubtless due to some slight sclerosis in the lower part of the cord together with poisoning as a result of tuberculous toxins. In many of the cases of causeless hemiplegia which occurred in the course of tuberculosis and which might last only two or three days a tuberculous meningitis might be present. Such cases also occurred, however, where there had been no meningitis or anything to account for the hemiplegia. It was said by many that such cases of hemiplegia were due to vaso-motor changes, as œdema of the brain. Dr. James thought, however, that they were much more probably due to the action of tuberculous toxins. In tuberculous meningitis occurring in children paralyses might be largely due to toxins. The patient might exhibit very few symptoms but suddenly develop convulsions or coma and might die. In such cases no evidence of brain or heart disease might be found but tuberculous disease was present, as happened in the following case. A male, aged fifty years, was found lying on a seat unconscious. The condition was not due to the action of any drugs. It became known that he had been troubled with a slight cough for some time. On shaking him he was able to give his name and address. The pupils were small and there was ocular divergence; no spasticity was present; rhonchi and râles were present over the chest. After the administration of whisky he had a fit and remained in the opisthotonic condition for fully a minute. The pulse became much weaker; three fits followed at short intervals and he died three hours after having been first seen. The brain tissue was very œdematous. In the lungs there was extensive tuberculous disease, but the other organs were healthy. Other possible causes for death might be suggested, but Dr. James thought that such cases were examples of general nerve tissue poisoning by tuberculous toxins. The mental stupor which came on towards the end of most cases of phthisis might have the same origin. Of course, the toxic effects might be due to other organisms besides those of tubercle bacilli. The conclusion which he arrived at was that a tuberculous toxin was produced which might cause more or less distinct effects on the nervous system.—In the course of the discussion which followed Dr. GRAHAM BROWN recalled a case of sarcoma accompanied by toxin poisoning. At first the patient had no symptoms of any diagnostic value; when he died numerous sarcomata were found, many in the skin, one at least in the liver, one in the stomach, and one in the abdominal cavity. What had led him to seek advice was a patch of anæsthesia on one foot; there was a further area of anæsthesia on one little finger. There was atrophy of the right shoulder and of the left forearm and hand. Dr. Graham Brown considered the condition closely simulated poliomyelitis anterior acuta and was due to a toxin poisoning of the cells of the anterior cornua, and that it could not have been a tumour growing in the cord and attacking only the anterior horns and missing the white matter.—Dr. R. A. LUNDIE said he could almost wish another title had been chosen, for neuritis had such a definite pathological meaning. The term neuritis might be appropriate to some of the cases, yet such a title did not cover all the ground. The chief symptom in one case he had in mind was an anæsthesia over one-half of the body and strictly limited to that half; such might be hysterical and quite came under the class of cases called "hysterical." They were not warranted in calling a disease developed all over one-half of the body a neuritis.—Dr. CHURCH suggested the possibility of phrenitis as a cause of the rapid death in some tuberculous cases and asked if the phrenic nerves had been examined in the instance of the death due to rapidly-acting toxin.—Dr. FLEMING said that the cases of most interest were those of multiple neuritis in tuberculosis. In any debilitated individual the mere bending up one arm for long enough would cause ulnar anæsthesia. In tuberculous cases people were very likely to be infected by other toxins; many, however, did not die from toxin poisoning. Why did so many escape? He thought the hemiplegia cases were probably hysterical and not neurotic.—Dr. JAMES, in reply, said that with regard to Dr. Graham Brown's narration of the case of sarcoma he agreed that in malignant disease there were toxins circulating and producing changes, and that in the end there was a toxin produced which clouds over the nervous system. Why the toxin should fall on certain parts was difficult to explain, but this was the way with all toxins—e.g., those of locomotor ataxia and lateral sclerosis. As regards Dr. Lundie's criticism Dr. James said he meant an inflammation of nerve tissue as G. H. Lewis used the term—an inflammation not limited to peripheral nerves, but affecting the whole tract of the cerebro-spinal axis. As to the possibility of phrenitis he thought that as this toxin affects the whole nerve tissue death might be due to the toxin affecting the respiratory centre in the medulla.

Dr. ROBERTSON DOBIE read a paper on Acute Yellow Atrophy, in which he reported a case of a rare disease which had occurred in his practice in the summer and which he had diagnosed as one of acute yellow atrophy. The unique points of the case were the clearness of mind maintained throughout the illness, the absence of delirium, the ultimate reappearance of the normal liver dulness after it had entirely disappeared, and the return to good health. For the excessive internal hæmorrhages Dr. Dobie had given oil of turpentine freely and to the use of this remedy he attributed the successful result.

SOUTH-WEST LONDON MEDICAL SOCIETY.—At a meeting held on Nov. 9th at Wandsworth, Dr. J. J. Macwhirter Dunbar, President, in the chair, Mr. Macleod Yearsley read a paper on Chronic Discharges from the Ear and their Treatment. He confined himself to discharges from the ear which have become chronic, pointing out that the offensive nature of the discharge is of less value in diagnosis than the rapidity of the disappearance of the fœtor under simple antiseptic treatment, the persistence of fœtor usually pointing to the retention of pus in the antrum or the presence of caries of the ossicles or temporal bone. Discharge in both ears, appearing without pain in a weakly child, suggests tubercle. The plan and method of careful diagnosis were pointed out with reference to attention being paid to the following points: the presence of polypi or granulations, the locality and size of perforations in the membrana tympani, the condition of the rest of the membrane, the condition of the inner wall of the tympanum, and the condition of the external auditory meatus. Perforations of the superior posterior quadrant of the membrane are often associated with caries of the incus, a bone specially liable to caries because, probably, of its blood-supply being more easily cut off owing to inflammation of the reflected mucous membrane, from which it gets its supply, whereas the malleus being partly in the substance of the membrana tympani and the stapes being attached in the fenestra ovalis have a better supply. The principal complications of chronic middle-ear suppuration are granulations, polypi, disease of ossicles and temporal bone, mastoid involvement and cholesteatoma, and the sequelæ—meningitis, cerebral or cerebellar abscess, lateral sinus, thrombosis, and pyæmia. In regard to treatment the removal of post-nasal adenoid growths is often of more importance in adults than in children, the thorough cleansing of the tympanic cavity by removal of polypi or granulations, &c., which may block up the passage and retain pus, and the thorough cleansing of the cavity by means of gentle syringing of the ear with hot antiseptic lotion, such as carbolic acid, 1 in 40; lysol, 1 per cent. to 2 per cent.; resorcin, 2 per cent. to 3 per cent.; boric acid, 1 drachm to a pint; perchloride of mercury, 1 in 3000 to 4000; or permanganate of potassium three or four times a day when the discharge is profuse, may be sufficient to cure simple uncomplicated cases. For other cases the use of hot instillations once or twice a day of carbolic acid, 1 part to 15 parts of rectified spirit and 15 parts of water; perchloride of mercury, 1 in 1000 parts of water, or in 25 parts each of water and rectified spirit; resorcin, 4 per cent.; salicylic acid, 1 in 200 of water or 2 per cent. to 5 per cent. of spirit (but this drug may produce a severe inflammatory reaction); boroglyceride, 10 per cent. to 50 per cent. solution; or a 6 per cent. solution of peroxide of hydrogen may be employed. The patient is laid upon the sound ear, the solution, comfortably warm, taken up in a dropper and a little poured into the diseased ear, retained for ten minutes, the tragus being pressed backwards and inwards to force the fluid through the perforation when this is small. The instillation of warm rectified spirit, diluted at first and increased in strength as

it is borne, is a valuable agent, especially where antiseptic instillations fail and in cases where no caries is present. The operation of ossiculectomy was described and recommended for cases of persistence of discharge with perforation in Shrapnell's membrane due to caries of the head of the malleus with disease of the incus or the anterior attic wall before resorting to the mastoid operation.—A discussion followed in which the President, Dr. Duke, Dr. Barkwell, Major Mark Robinson, I.M.S., and Mr. Gay took part.—A fine collection of specimens illustrating the lecture was shown and a very cordial vote of thanks was accorded to Mr. Yearsley.

MIDLAND MEDICAL SOCIETY.—A meeting of this society was held on Nov. 2nd at the Medical Institute, Birmingham, the President, Dr. W. G. Lowe, being in the chair. The following gentlemen were elected members of the society: Mr. H. D'A. Ellis, Mr. R. H. Gilpin, Dr. F. V. Milward, Dr. A. Croll, and Mr. F. J. V. Hall.—Mr. Chavasse showed a case of Ectopion Vesicæ. The patient was a girl, aged four years. Various plastic and osteoplastic operations had been unsuccessfully performed. In December, 1897, Mr. Chavasse separated the ureters from the bladder and transplanted them into the vagina and cut away the posterior wall of the bladder. The remaining cleft was closed at a later period by Thiersch's method. The urine passed into the vagina and was caught in a urinal applied to the vulva.—Mr. J. T. J. Morrison showed a man, aged twenty-four years, who on Oct. 4th had been kicked on the upper and inner angle of the left orbit by a pony whilst he was stooping down behind the animal. The blow, which was not very forcible, appeared to have been struck by the inner calkin of the shoe on the near hind foot. Soon after the injury both the left eyelids began to swell and some hours later the swelling greatly increased when the patient was blowing his nose and a little blood-stained mucus came from the left nostril. When seen on Oct. 7th there was considerable surgical emphysema of the left eyelids and pressure on the upper and inner part of the orbit caused pain. There was also some proptosis (noted by Mr. Priestley Smith), but no diplopia. No sign of bruising could be seen. The history and appearances excluded injury of the frontal sinus, antrum, or nasal bone; the air must therefore have escaped from the anterior ethmoidal cells as a result of fracture of the posterior portion of the lacrymal bone, or adjacent part of the os planum of the ethmoid, or both these bones. A pad of wool was applied to the lids and the nostril was irrigated daily with izal lotion. In a week all traces of the injury had disappeared.—Mr. Haslam showed a Tumour of the size of a hen's egg which he had removed from the penis of a man, aged forty-three years. Ever since the patient could remember he had had a small lump on the right side of the penis just in front of the scrotum. For some time this had been gradually increasing in size and for the last two months its growth had been rapid. On admission the tumour was found to be attached by a broad base to the right corpus cavernosum on its lateral and ventral aspects, but was not interfering in any way with the urethra, though at the operation it was found to be very close to this. On section after removal the tumour had all the appearances of a fibro-myoma of the uterus, and its structure, as shown by the microscope, consisted of fibrous tissue with a very large proportion of involuntary muscular tissue.—Dr. Lamb read a paper on the Diagnosis of Suppuration in the Accessory Cavities of the Nose. For diagnostic purposes he divided the cavities into an anterior group which drain through the hiatus semilunaris into the middle meatus, and a posterior group which drain into the olfactory fissure and naso-pharynx. He described the systematic examination of the various cavities including transillumination, the manipulations necessary in catheterising them through the natural openings, and the operation of exploratory puncture in certain cases.

BRITISH LARYNGOLOGICAL, RHINOLOGICAL, AND OTOLOGICAL ASSOCIATION.—A meeting of this society was held on Oct. 28th, Dr. J. Middlemass Hunt, President, being in the chair.—The President showed a case of Epithelioma of the Larynx (with microscopical specimens) occurring in a man, aged forty-four years, who had suffered from increasing hoarseness for six months and was now quite aphonic. On examination the anterior commissure was seen to be occupied by a pedunculated growth.—Dr. Hunt proposed to perform thyrotomy and to remove the growth and surrounding parts.—Dr. Furniss Potter showed a case of Black Tongue in a man, aged forty-eight years. A dark patch was seen on the dorsum immediately anterior to the circumvallate papillæ, which consisted of epithelial and food débris, apparently pigmented and adherent to hypertrophied papillæ, which latter terminated in hair-like processes about ¼ in. long. Dr. Potter also showed a case of Loss of Abductor Movement in the Left Vocal Cord. The patient who is a healthy-looking man, aged thirty-three years, had been under treatment during the last two years for chronic pharyngitis and nasal polypi. There was no history of syphilis—or (with the exception of influenza four years ago) any previous illness. On examination the left cord was seen to be motionless and practically fixed slightly to the left of the middle line, the right cord overlapping the middle line to meet the left on phonation. The chest had been examined but no sign indicating intrathoracic pressure had been discovered. The knee-jerks and pupil reflexes were normal; in fact, there was complete absence of any sign or symptom to indicate the cause of loss of motor power.—Dr. Whistler suggested that pressure on the recurrent nerve might be caused by enlargement of one of the laryngo-tracheal glands.—Mr. Mayo Collier cited a case in which paralysis of a vocal cord was caused by an empyema situated over the apex of the lung and in which motor power returned after surgical treatment of the empyema.—Mr. Mayo Collier exhibited a case showing Deformity of the Palate, Teeth, and Face due to early Nasal Obstruction. The patient, a man, aged eighteen years, presented a markedly typical appearance of the effect of chronic nasal obstruction on the growing skull.—Dr. Milligan read the notes of a case of Suppurative Catarrh of the Right Maxillary Antrum and Right Frontal Sinus in which at the time of operation on the antrum, though a careful examination was made, frontal sinus suppuration was not diagnosed.—The President delivered his inaugural address on "An Appreciation of Three British Aurists—Wilde, Toynbee, and Hinton," dwelling strongly on the respect in which these workers were held by continental authorities on aural surgery.—Dr. Milligan described two cases of Extradural Abscess following Chronic Suppurative Middle-ear Disease.—Dr. Dundas Grant showed a case in which he had removed an Epithelioma from the auricle.

ULSTER MEDICAL SOCIETY.—The opening meeting of this society for the session 1898–99 was held on Nov. 3rd. The retiring President, Dr. J. A. Lindsay (who was accorded a very cordial vote of thanks for his admirable management of the affairs of the society during the past year) introduced his successor, Dr. Joseph Nelson, who delivered his presidential address. After thanking the members for the high honour conferred upon him in electing him President of that old and honourable society, Dr. Nelson said that in thinking over what was the best subject to bring before them he had decided, as the great majority of the members were general practitioners, to treat certain subjects which were of mutual interest to them and to specialists like himself. He then discussed very fully the three topics of (*a*) ophthalmia (blennorrhœa) neonatorum, (*b*) mastoid disease, and (*c*) middle-ear suppuration. With reference to all three he emphasised the importance of prevention. In regard to the ophthalmia of newly-born children he said it was lamentable, notwithstanding Credé's well-known teaching, that blindness was so common owing to a purely preventable disease. It had been thoroughly dealt with in maternity hospitals, but it was among the poor treated in their own homes that its ravages were especially seen. He dealt with the preventive measures to be adopted in reference to mother and child. As to mastoid disease he showed its important bearing on affections of the brain and narrated a case treated by himself so far back as 1883 in which a most successful result had been obtained by opening through the mastoid antrum and evacuating and draining an extradural abscess. Dr. Nelson then discussed very fully the important subject of middle-ear inflammation, its relation to throat affections, its connexion with general diseases such as scarlet fever, and its prophylaxis and treatment. The address was full of practical remarks and suggestions, and at its conclusion Professor Symington moved a hearty vote of thanks to the President for an address the practical nature of which, he was sure, was very much appreciated. He stated that he (Professor Symington) was the first British anatomist

to direct attention to the mastoid antrum.—Mr. W. G. Mackenzie seconded the vote of thanks, which was most cordially passed by the large audience of medical men present.—The President having thanked the members it was decided that the annual dinner should be held on Nov. 24th. Several new members were then elected.

BIRKENHEAD MEDICAL SOCIETY.—A meeting of this society was held on Nov. 11th, the President, Mr. H. Nazeby Harrington, being in the chair.—Mr. Ellis Pearson opened a discussion on the Practical Application of Antiseptics in General Midwifery Practice. He maintained the extreme desirability of midwifery nurses having a general training in surgical nursing before their special training in order that they should become thoroughly imbued with antiseptic principles. As a lubricant for obstetric work carbolic acid with vaseline (1 in 20) was suggested as one against which the usual strong objections to most lubricants could hardly lie. Washing of the pudenda by the nurse before labour with some fairly powerful disinfectant was recommended as a procedure which, though it might at first sight seem fussy, would probably in these days of spreading knowledge concerning germs be accepted without demur by intelligent patients. Douching Mr. Pearson held was best limited in normal cases to one douche given immediately after labour by the practitioner himself; at the same time he considered (always provided that the nurse could be thoroughly trusted) that regular douchings throughout the puerperium were desirable because they prevented many of those evanescent appearances of slight pyrexia, which cause the medical attendant so much anxiety.—The discussion was continued by Dr. Marsden, Mr. Stansfield, Mr. Wilkinson, Dr. W. Floyd, Mr. Vacher, Dr. Brien, Mr. Laird Pearson, and the President.

Reviews and Notices of Books.

The Eye as an Aid in General Diagnosis: a Handbook for the Use of Students and General Practitioners. By E. H. LINNELL, M.D. Philadelphia: The Edwards and Docker Co. 1897. Pp. 248.

IN giving Dr. Linnell credit for taking much trouble in collecting a large number of facts showing the relations of affections of the eye to particular diseases of the general system we doubt the utility of the work to either the student or the general practitioner. A few years ago Professor Knies of Freiburg-in-Baden took the same subject into consideration and wrote a very good treatise upon it, but treated it in a manner exactly opposite to that adopted by Dr. Linnell. Taking the diseases of the several systems of the body—as the digestive, respiratory, circulatory, and nervous systems—he described the affections of the eye which they are severally liable to induce. Dr. Linnell, on the other hand, takes the several diseases of the eye and endeavours to show their value as a means of enabling a diagnosis to be made or, rather, of assisting a diagnosis to be made. The difficulties which present themselves, however, are very numerous and great. Taking, for example, one of the first subjects mentioned by Dr. Linnell, "ocular paralysis," it scarcely helps our diagnosis to be told that whilst tabes and syphilis are responsible for the larger number of cases, yet paralysis of one or more muscles may result from multiple sclerosis; that it may be the consequence of diabetes and renal affections; that it may be rheumatic or may follow diphtheria; that in the latter case it is usually peripheral and is the sequence of hæmorrhages or neuritis, but is sometimes nuclear; and, finally, that an ocular paralysis due to peripheral neuritis "is most frequently caused by alcohol and we should expect to find associated symptoms of peripheral neuritis in other localities." We fear that a reference to this chapter would give little assistance to a well-instructed practitioner who meets with a case of paralysis of the third nerve, beyond the suggestion of a number of conditions to which it might be owing.

The author especially disclaims any discussion on the differential diagnosis of the various forms of disease of the fundus of the eye on the ground that such a diagnosis requires special training and skill not possessed by the majority of general practitioners, yet he immediately proceeds to consider the features common to several varieties of retinitis and the appearances presented by choked disc as well as those seen in ocular affections caused by drugs which are not recognisable and certainly not distinguishable without a considerable amount of special skill in the use of the ophthalmoscope. Yet it is in these very cases that the eye symptoms sometimes afford important aid in diagnosis.

Researches on Leadless Glazes. By W. J. FURNIVAL. Stone, Staffordshire: W. J. Furnival. 1898. Pp. 132. Price £5 5*s*.

LEADLESS glazes for pottery ware seem to be coming to the front and to be likely to take an important position in the future. So recently as 1893, when the Asquith Committee held its inquiry into the "dangerous trade" of pottery manufacture, there was only one "leadless" glaze submitted to a member of the committee and that one proved to contain considerable quantities of lead. Since then Messrs. Minton have stated that they have successfully used a leadless glaze and have exhibited the result, and we have now this work by Mr. Furnival containing a large number of practical trials and receipts, many of which seem to be very successful. Consequently, those who limited their hopes of improvement in this industry to the introduction of fritted lead glazes will go further and begin to ask for the absence of lead altogether.

Readers of THE LANCET do not require to hear again the oft-told story of the lead poisoning in the Potteries due to dipping and painting the ware with glazes and colours containing "raw"—that is carbonate of—lead or to be reminded of the proposals made to diminish this danger by fusing or fritting the lead into a glass before use. That this precaution, if properly carried out, will largely diminish, if not remove, the danger of lead poisoning has been shown both by experiments on the solubility of frits and by the practical experience of certain large firms who have adopted them, and as this involves a comparatively small change in the present process of manufacture reformers have been content to ask this of the manufacturers and no more. Unfortunately, in most cases they have not even got this much, and if successful experiments continue to be made with leadless glazes, will probably, as so often happens in the history of reforms, demand and ultimately get much more than they originally hoped for. Mr. Furnival is himself connected with the pottery trade and has obviously a close practical acquaintance with its working processes and the difficulties to be overcome. He is evidently enthusiastically in favour of leadless glaze and has made hundreds of practical experiments the results of which will be found in the latter part of the book. He has very wisely published his failures as well as his successes so as to save others the tedium of passing over the same ground, but the percentage of successes is very large. The experiments have all as nearly as possible been made under practical working conditions and he discusses very fully the difficulty of ensuring absence of lead during the grinding of the leadless glaze, or its fritting, or even the possibility of lead fumes entering the glaze during subsequent baking. In fact, he seems to have considered all the difficulties and looked out for all the defects of which a glaze is capable and to have met them successfully in a certain number of his receipts. The earlier portion of the book is less important, but contains an interesting history

of leadless glazes with perhaps a somewhat too copious quotation from well-known authorities.

Taking the work altogether it is a valuable contribution to the subject and has only one serious defect. The author has published it at the almost prohibitive price of £5 5s. Surely it would have been better to have either regarded his receipts from a purely commercial point of view and sold them as trade secrets or to have published his book at a reasonable price and given the result of his experiments freely to the world. This, however, is a small matter and the experimental results are here, and the practical reformer will ask, What next? The reply is probably, Nothing, unless the Home Office can be persuaded to seriously undertake the work of reform on the lines more than once laid down in these columns.

The *Times* correspondent in the Potteries has been defending the character of the manufacturers and declaring that they are really quite kind-hearted and well-meaning individuals. This is most readily admitted and has never been denied, but, like other people, they are very busy men, struggling against fierce outside competition and fighting to keep a market for their goods. They have no time to experiment; they cannot stop to think of the condition of the work-people; lead-poisoning has become such a matter of course that both work-people and manufacturers take it for granted until aroused by criticism from outside. Here and there large and wealthy firms with a scientific staff can afford to experiment and consequently obtain valuable results, but in few English industries is the English manufacturer's contempt for, and disbelief in, science more marked than in pottery manufacture.

This being the state of the case the pottery manufacturer must be stimulated. It must be made worth his while to abolish raw lead and to adopt safe frits—or, better still, leadless glazes—and this the authorities of the Home Office can do by a stroke of the pen if they like. They have only to draw up a sufficiently stringent set of rules for manufacturers using raw lead and then grant exemption from the more stringent rules (such as raising the age of workers in the dipping house to eighteen) to those manufacturers using a glaze approved by the Home Office. If the manufacturers object the House of Commons would endorse such special rules in the form of an Act. Prohibition of raw lead is a long way off, but it is easy to make it pay to abolish it, and the final blow to its use would be given by bringing lead poisoning under the Workmen's Compensation Act.

Such books as this show clearly the necessity of strong action on the part of the Home Office. Experiments are tried, results are obtained, there is much writing in newspapers and talking in Parliament, and drawing up of special rules, but the lead poisoning goes on just the same, and will go on until the Home Office takes one of two courses, either prohibits the use of raw lead or by suitable regulations makes the introduction of harmless glazes a paying affair for the manufacturer.

A Manual of Physiology with Practical Exercises. By G. N. STEWART, M.A., D.Sc., M.D. Edin., Professor of Physiology in the Western Reserve University, Cleveland. Third edition, University Series. London: Baillière, Tindall, and Cox. 1899. Pp. 848. With 5 Chromolithographs and 300 Woodcuts. Demy 8vo. Price 15s. net.

THE present edition of this treatise as compared with the first, which was published in 1895, is enlarged to the extent of fifty-two pages, while twenty-two woodcuts have been added. The text has been revised throughout and many small corrections have been made, whilst the well-ascertained facts which have been made out during the last three years have been intercalated. In this short period it is not to be expected that any material alteration has been required in the plan of the work, but the author has evidently taken a pleasure in keeping his knowledge up to date. Thus in the description of the chemical composition of living matter a notice of the nucleo-proteids and the proteoses or albumoses is introduced in the account of the blood, the characters of the oxyphile and basophile cells are given, and the identity of Ehrlich's neutrophile cells with the oxyphile cells of Kanthack and Hardy is pointed out, together with the proportion which these bear to each other in the blood. In human blood, says Dr. Stewart, "the finely granular oxyphile cells make up 60 to 80 per cent. of the whole number of leucocytes, the lymphocytes (and hyaline cells) 20 to 30 per cent., and the coarsely granular oxyphile cells less than 5 per cent.," though, he adds, "these proportions are far from being constant." New paragraphs are inserted dealing with the electrical conductivity of the blood and the relative volume of corpuscles and plasma in unclotted blood. The paragraphs on the coagulation of the blood have been re-written, though even yet it scarcely seems that the last word has been said in regard to it. The hypothesis here advanced, supported on recent researches, is that the presence of calcium is essential to the formation of fibrin, whilst the fibrin is formed by the union of calcium with fibrinogen (or thrombosin) under the influence of fibrin ferment (or nucleo-proteid.

The author entertains no doubt about the cause of the second sound of the heart, but he speaks with hesitation of the cause or causes of the first sound, attributing that sound in part to the sudden tension of the auriculo-ventricular valves and in part to the contraction of the muscular tissu eof the heart, which he regards as being to some extent a resonance tone of the (listener's) ear. We should have thought that it was hardly worth while to revive Sir Richard Quain's theory that the first sound of the heart is due to the impact of the ventricular blood on the semilunar valves at the moment of the systole and the resistance which it encounters as it passes through the orifices of the aorta and pulmonary artery. Considerable additions have been made to the chapter on Absorption as well as to those on the Nervous System, especially in regard to its histology, and to that on the Organs of Sense. With the improvements which have been made in this edition we regard Dr. Stewart's "Manual" as one of the best works on physiology at the command of the student. It is written with great clearness and by one who is practically familiar with his subject.

A Manual of Bacteriology, Clinical and Applied. By RICHARD T. HEWLETT, M.D., M.R.C.P., D.P.H. Lond., &c., Assistant in the Bacteriological Department, British Institute of Preventive Medicine. London: J. & A. Churchill. 1898. Pp. viii., 439. Price 10s. 6d.

THE student of bacteriology has now no reason to complain of any lack of text-books; rather is he liable to be bewildered by their number and by their increasing size. It is only by a judicious selection of facts, guided by a due sense of perspective, that a writer can now hope to produce a book which will really be of practical use to the student. Dr. Hewlett has, in our opinion, achieved a marked success, and we are unable at the moment to point to any one of the smaller and less pretentious works on bacteriology which more completely fulfils the requirements of the student, especially from a practical point of view, than does the present volume. The author is actively engaged in the practical applications of bacteriology and he is not without experience in teaching the subject.

He commences with a short but sufficient account of the

structure, chemistry, and classification of bacteria, accompanying his facts with enough scientific explanation to render them intelligible. The methods of study of bacteria and bacterial diseases are given in practical detail, such selections of staining methods being described as have been found by experience useful and necessary. In describing the microscope many valuable practical hints are given, and the use of immersion lenses is illustrated by diagrams. The subject of immunity is dealt with in a not very conclusive chapter, the fault perhaps of the subject rather than of the author. The chief pathogenic organisms are described in adequate detail, commencing with the subject of suppuration and septic conditions, under which are described the pyococci proper and various other organisms having relation to sepsis. We do not find any good connected account of septicæmia—an omission which should be remedied in the next edition. Space fails us to follow the author in detail through the different sections, but the facts appear to be clearly expressed and to include the most recent information. Throughout the book those methods are given which may be most usefully employed in studying each particular organism, especially those relating to clinical examination. The bacteriology of air, water, soil, milk, &c., is dealt with in a special chapter.

The practical methods of preparing antitoxins and vaccines occupy the greater part of a useful appendix. Although the grouping of pathogenic organisms in the book leaves something to be desired, and although individual statements made here and there will not command universal acceptance, yet we think Dr. Hewlett's manual is one which in its scope and method will be of great value to the student, and one, moreover, which can be taken as an accurate and safe guide both in theory and practical work.

LIBRARY TABLE.

Surgical Technics in Hospital Practice: a Handbook for House Surgeons, Students, Dressers, and others engaged in Hospital Work. By K. W. MONSARRAT, M.B., F.R.C.S. Edin., Assistant Surgeon to the Liverpool Cancer Hospital. Bristol: John Wright and Co. 1898. 8vo. Pp. 132. Price 3*s.* net.—The author tells us in his preface that this book is intended chiefly for house surgeons, and it is so essentially practical in nature that its perusal will well repay the house surgeon who is desirous of thoroughly doing his duty to the patients under his charge. Much of the success of modern surgery depends on a minute observance of many small points, and the surgeon's knowledge and skill may be all in vain unless seconded by those who have to assist him in the operation and after-treatment. The chapter devoted to personal asepsis is very good; many operators, house surgeons, and dressers are lax in cleansing their hands and some seem to imagine that a momentary dip in an antiseptic solution will suffice to render them free from germs. The best corrective for this state of mind is a course of culture experiments made from the hands after these valueless attempts at cleansing. The charge of the patient both before and after the operation is dealt with and the treatment of the chief complications which may arise after the patient is put back into bed is carefully described. Much of this information is not to be found in the ordinary text-books and therefore it is likely to prove valuable. The author advises that saline transfusion should be performed by means of a glass syringe, but the funnel and tube are certainly more convenient. One chapter describes the treatment before, during, and after the operation of "special cases," such as "operations on the brain," "operations involving the mouth and pharynx," "tracheotomy," "empyema," "abdominal section," and "intestinal obstruction." An appendix contains a code of rules for surgical nurses which might prove of value.

Injuries and Diseases of the Ear. Being reprints of papers on Otology. By MACLEOD YEARSLEY, F.R.C.S. Eng., Surgeon in Charge of the Department for Diseases of the Throat, Nose, and Ear, the Farringdon Dispensary, &c. London: The Rebman Publishing Co. 1897. Pp. 40. Price 2*s.*—The substance of this book first appeared as articles in the *Medical Times* and *Pediatrics*, though much has been rewritten. The work does not pretend to deal with the whole of the diseases of the ear, and its scope will be best indicated by quoting the headings of the six chapters which it contains; they are: "On an Artificial Membrana Tympani," "Foreign Bodies in the Ear and their Treatment," "What not to do in Diseases of the Ear," "The Use of the Pneumatic Aural Speculum," "On the Care of the Ear in Children," and "Aural Reflexes." These papers will prove useful to those who have but an elementary knowledge of the subject and therefore will appreciate the hints and cautions which the book contains.

JOURNALS AND REVIEWS.

The Journal of Comparative Pathology and Therapeutics. Edited by J. MCFADYEAN, M.B., B.Sc., F.R.S. Edin. September, 1898.—This number opens with an article on the Pathology and Treatment of Spavin, translated from an article by Dr. Eberlein of Berlin which appeared first in the *Monatshefte für Praktische Thierheilkunde*. This is an admirable paper and deals very fully and lucidly with the history, pathology, and clinical treatment of spavin and similar diseases. Though all pathologists will not agree that the first change is simply an osteo-porosis there will be little doubt that most will agree as to the subsequent changes. Of course, if the meaning of the term be limited in its pathological and not in its clinical sense an agreement may be arrived at amongst pathologists, but this alone would not be of much assistance to the clinician. Professor McFadyean contributes a most valuable article on the Situation and Order of Development of the Lesions in Bovine Tuberculosis, from which it may be gathered that in cattle, at any rate, tuberculosis in the large majority of cases is contracted through infection of the bronchial and mediastinal glands, that is, through the respiratory tract. In 36 tuberculous animals a careful examination was made and one or other set of these glands was, or both were, always affected. In 5 cases the discoverable lesions were confined to the bronchial glands, in 2 cases to the mediastinal glands, and in 9 cases to the two groups of glands; 16 cases in all, or 43 per cent. of the total. In only one case were both of these groups of glands apparently healthy. The order of the occurrence of the process in more advanced tuberculosis in cattle appears to be, first, in the lungs and the pleura, then the mesenteric glands, the peritoneum, the liver, the heart and pericardium, the udder, and the uterus and ovaries, whilst the kidneys, the bones and joints, the brain and spinal cord, the spleen, the skin and the muscular systems are not nearly so frequently affected. As regards generalised tuberculosis, Professor McFadyean lays down a series of rules which will be of very great interest and assistance to those who are engaged in the examination of carcasses for tuberculosis. In an editorial article the Report of the Royal Commission on Tuberculosis is returned to and some of the salient points are brought prominently forward, especially those relating to the prophylaxis of tuberculosis. "Some Abdominal and Uterine Operations in the Dog and Cat" are recorded by Professor F. Hobday, who, summing up his cases of abdominal and uterine surgery, states that "the abdomen of the dog and cat can be opened without any great dread of the consequences, although of course no one should treat carelessly any operation involving laparotomy. With strict attention to asepsis, thanks to the researches of Lister, the surgeon

nowadays need not dread interfering with the peritoneal cavity whenever that may be considered absolutely necessary." Reviews and the report of the opening meeting of the Royal Veterinary College, London, make up the number.

Scottish Medical and Surgical Journal.—Dr. Alexander Bruce (Edinburgh) writes on the Origin of the Facial Nerve. He considers that it has a crossed root which does not arise from the opposite facial nucleus but can be traced in an upward direction through the posterior longitudinal fasciculus, and is probably concerned in the innervation of the upper facial muscles. Dr. Robert Jardine (Glasgow) gives notes of four cases of Cæsarean Section. Dr. McVicar (Dundee) describes a case of Visual Aphasia and Amnesia Verbalis.

Edinburgh Medical Journal.—Dr. H. W. G. Mackenzie and Dr. W. E. Dixon discuss the action and properties of podophyllin. They have found that the Indian podophyllin is nearly twice as physiologically effective as the American. Dr. G. A. Gibson writes on Paralysis of the Sixth and Seventh Cranial Nerves. Dr. Alexander Morison has a short paper on the Innervation of Intracranial Vessels. Dr. A. A. Warden (Paris) describes a successful case of Internal Urethrotomy with Maisonneuve's instrument.

Dublin Journal of Medical Science.—The original articles are on the Treatment of Tetanus with Antitoxic Serum, by Mr. R. G. Patteson; on the Relations between Preventive Medicine and Vital Statistics, by Dr. T. W. Grimshaw, C.B., Registrar-General for Ireland; and a Medico-Statistical Sketch of the North-West Frontier Disturbances in India, by Surgeon-General A. A. Gore.

Écho du Bien.—The October number has two articles on Hospital Abuse, one by Dr. Variot of the Hôpital Trousseau, whose refusal to give gratuitous advice to well-to-do outpatients has recently attracted much attention to this question in Paris and has already been referred to by our Paris Correspondent in THE LANCET of Oct. 8th and 15th. Dr. Variot refers in terms of approval to the objects of the Hospital Reform Association in this country.

New Inventions.

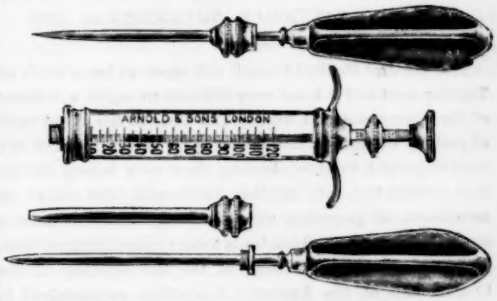
A COMBINED TONGUE DEPRESSOR AND THERMOMETER CASE.

THIS useful combination, designed by Mr. J. B. Gabe of Swansea, is very compact and combines the two articles in the space and at the price of one. One advantage which this instrument possesses is the facility it affords for bringing back the index of the clinical thermometer after use. By

placing the thermometer in the case bulb upwards the index may be shaken down without any danger of breakage and with little or no trouble, the tongue depressor forming a handle for this purpose. The price is 2*s.* 6*d.*, and the manufacturers are Messrs. Lynch and Co., Ltd., Aldersgate-street, E.C.

HYDROCELE INJECTION APPARATUS.

MESSRS. ARNOLD AND SONS, of West Smithfield, London, have manufactured, at the suggestion of Dr. Cuthbert Bowen, of Bridgetown, Barbados, West Indies, a hydrocele injection apparatus which possesses several distinctive qualities. The barrel is graduated with clear black markings so that the exact amount of fluid drawn up is indicated, and the piston rod is similarly graduated and provided with a sliding stop ratchet, thus preventing the injection of more iodine or bichloride of mercury solution than is intended. The cannula screws on firmly by threads to the syringe, so that none of the injection fluid can be lost and the surgeon's fingers cannot come into contact with the iodine. The special feature of the instrument, however, lies in the fact of the trocar screwing into the cannula and becoming incorporated with it. When the point of the trocar protrudes to the extent regulated by the threads it will be found that the trocar and cannula are invisibly merged one

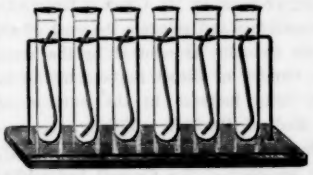


The upper figure shows the trocar in the cannula, the next the syringe, and the two lowest figures the cannula and trocar separately.

in the other, and on running the finger up and down the outside of the instrument there is an entire absence of collar. After having been in use for some time cannulas of ordinary make hang loosely on their trocars and the patient experiences discomfort during the injection, but in Dr. Cuthbert Bowen's apparatus the cannula and trocar together form an apparently solid needle which causes the patient hardly any pain in its introduction. The projecting horns on the syringe enable the operator to work it with one hand, leaving the other free for the manipulation of the part to be injected.

AN ASEPTIC FEMALE CATHETER STAND.

MESSRS. REYNOLDS AND BRANSON, Ltd., of 13, Briggate, Leeds, have submitted to us an aseptic stand which they have specially designed for use in female hospital wards. It consists of a heavy plate-glass slab with rounded corners, having a half-inch frosted strip running along the whole length of it, upon which the patient's name may be easily written with a pencil. The ringed support for holding the six strong glass test-tubes is made of metal thickly tinned, so that the whole apparatus is quite aseptic. The test-tubes can either be used to hold the fluids necessary to asepticise the glass catheters or as specimen glasses for urine. By the way, glass catheters do not commend themselves to the majority of surgeons, and the risk of accident in their use, however remote, must not be forgotten.



FOOTBALL FATALITIES.—A young man, aged nineteen years, of Farnworth, near Bolton, who was injured while playing for a Walkden football club in a match on Nov. 5th, died on the following Wednesday. He collided with another player, whose knee struck him in the abdomen.—A young man, aged twenty-four years, while playing a game on Nov. 10th, sustained injuries to the abdomen from which he died on the following Sunday, an operation proving futile to save him.—In a match at Association rules between Dewsbury and Sheffield at Dewsbury on Nov. 12th, the visitors' centre forward, a young man, aged twenty years, died on the ground. He was struck by the ball in the abdomen and fell, after continuing to dribble for some 20 yards. A medical man was playing in the match so that the deceased received medical attention at once. All efforts were without avail and death ensued in a few minutes. The body was subsequently removed to the Dewsbury and District Infirmary.

THE LANCET.

LONDON: SATURDAY, NOVEMBER 19, 1898.

THE General Medical Council will meet at two o'clock on Tuesday next and it is not very difficult to make a forecast of its discussions and work. The Council has a bad habit of putting off to the last hours of its session some of the most important subjects, leaving them as a legacy for the next session and, like another Parliament that might be mentioned, of grappling with too many topics at once, a method of procedure which leads to an endless waste of time. As we read the proceedings of the last meeting of the Council and of the Executive Committee as contained in the respective minutes of the two bodies, we can with much confidence anticipate that most of the following subjects will again engage the attention of the Council: the memoranda of the Council on the reciprocity of practice between this and foreign and colonial countries; the features essential to any workable Midwives Bill; the disciplinary powers of the diploma- and degree-granting bodies; the efficiency of the examinations of the Apothecaries' Hall of Ireland; the raising of the standard of the preliminary examinations recognised by the General Medical Council; and the extension of the rule against the employment of unqualified assistants to dentists. This is a sufficient programme to occupy the Council for several days. But it is far from complete. It does not include penal cases, which generally occupy two days of the Council's time; nor does it include a very sweeping proposal by Mr. GEORGE BROWN to disestablish all the committees and relegate the work of all of them to the branch councils, or another by the same member to add to the number of Direct Representatives in consideration of the large increase in the number of practitioners on the Medical Register. Finally, the programme takes no notice of questions which were settled, in a way, at the last meeting of the Council but which may be found to have been rather too vaguely disposed of. Nor does it provide for reports of such committees as that appointed at the last meeting to take such steps as were deemed most effective to induce the Government to insert a clause in the Companies Act Amendment Bill in order to prevent the registration of companies formed to carry on medical, surgical, and dental work.

It will be generally admitted that the most important subject in the above list is the proposal to raise the standard of preliminary education by revising the list of preliminary examinations now recognised by the General Medical Council. Already the action of the Council on this subject has been challenged, and so challenged that it had to defer the operation of its resolution of Nov. 29th, 1897, to bring a revised list into force on Jan. 1st, 1899. The notice given under this resolution was thought to be too short, especially as some of the bodies affected by it, notably the College of Preceptors, felt aggrieved. It is of great moment that this sense of grievance should be removed, and of still more moment that the question of standard should be settled. There is a universal consensus of opinion in favour of raising the standard of general education. This consensus embraces educational authorities both in and out of the profession. The supply of students is so plentiful, and the general means of education so improved, that the experiment can be made with safety. Under these circumstances it may be hoped that the General Medical Council will give its best and its early attention to this subject and settle it boldly, without favour or fear.

The next most pressing subject in the above list is that of the disciplinary powers of the various diploma- and degree-granting bodies. The entire want of the most obvious and elementary powers in some of these, notably in certain of the universities, leads to the scandal of persons who have been convicted of felony and whose names have been removed from the Medical Register still continuing in full possession of their status and titles as graduates of ancient universities. Some bodies have the power of removing from their rolls the names of their members without any corresponding power of restoring them; hence the reluctance to inflict necessary punishment when the punishment cannot be graduated in proportion to the offence. The General Medical Council itself often removes names with the intention of restoring them; at any rate, it often does restore them. It would be as absurd to remove some names from the Register without the possibility of their being re-instated as it would be to pass sentence of capital punishment in cases of minor offences. The lawyers of the Council have expressed the strongest opinions as to the necessity for some legislation for the removal of these evils, and at the last meeting of the General Medical Council the President was requested to put himself into communication with the Lord President of the Council in reference to this subject. We shall hear how far such communications have been successful. The present state of the law makes the Bodies represented on the General Medical Council ineffective in maintaining the full discipline of a profession in which the public itself has such a great interest. It is not to be expected that the Government will undertake such legislation *proprio motu*. It has too much to do in other directions. But the need for such legislation is obvious. If the Council can convince the Government that it and the qualifying bodies are in earnest in asking for such powers doubtless the Government will find ways of bringing in a Bill for the purpose.

IF Italy is the recruiting ground of the political assassin she is also the parent of the "criminal anthropologist," and rightly so. Given a CASERIO and a LUCCHENI, we have as a scientific aftergrowth a LOMBROSO and a FERRI—the bane, as in the universal economy of nature, evoking its antidote. The fact is one to be remembered and duly weighed by those whose attitude towards the subalpine professor and his school is too critical to be cordial. "Put yourselves in our place," say LOMBROSO and his disciples, "and you will look with tolerance, not to say benevolence, on our studies." This argument *ad hominem* is as justifiable as such arguments can possibly

be. Italy, as criminal statistics amply attest, exceeds all Europe put together (minus the Iberian peninsula) in the number of her homicides. As her able statistician, Baron GAROFALO, words it: "She commits a murder every two hours." Not only so, but she lends herself as the prompt and effective tool for homicidal purposes abroad. Of the three anarchist assassinations perpetrated in Europe within as many years all of them were the work of Italians. Italian, moreover, was the nationality of the miscreants who on the eve of the Emperor WILLIAM'S visit to Palestine were by the vigilance of an English official arrested at Alessandria when plotting against His Majesty's life. By none are such facts more freely admitted and more poignantly deplored than by right-minded Italians themselves—so much so, indeed, that the working men of Rome have formed a league *contro il coltello*, to disarm their fellows of the homicide's favourite, because all too handy, weapon. What wonder in these circumstances if patriots, as well as nature-students like LOMBROSO and his school, should endeavour to go a step deeper and in addition to impounding the knife seek to improve the men who wield it?

"It is for this reason we are criminal anthropologists," says the Turin professor, and none who wish well to Italy but must applaud his inspiration, even while doubtful as to the scientific basis of his methods. But are these methods so unsound as certain extravagances in their tenour or over-confidence in their pretensions seem to indicate? They are neither more nor less than an adaptation to modern conditions, in the light of a profounder, more refined physiology, of what the brothers COMBE, of Edinburgh, some eighty years ago imported from Germany; they proceed from a practical recognition of the truth that character is largely, if not wholly, conditioned by organisation, and that this in turn is largely, if not wholly, conditioned by inheritance and environment, physical and moral. Take the child, says LOMBROSO, at the earliest stage possible, above all before coming into contact with other children at school, and let him undergo the thorough examination, "anthropometric and psychiatric," which can detect abnormalities, congenital and other, at a stage when they can be remedied or removed. From such an examination his up-bringing should start, and according to its findings he should be allowed to associate with his fellows or be segregated from them till such time as his defects are overcome. Had this procedure been carried out in the case of ninety-nine-hundredths of her criminals and assassins Italy would now be witnessing a depletion of her engorged prisons and penitentiaries and, instead of being in imminent danger of becoming an international pariah, would have seen her immigrants welcomed by the most normally developed of the sister powers as a special force in domestic progress and in common evolution. Now, however, her capital is shortly to be the appropriate seat of a Congress to devise means for counteracting a "diseased development" of which she supplies the most typical exemplars—a development which reached its sinister culmination in the *belva umana* (the human wild beast), as she calls him, who has just been sentenced at Geneva.

Scarcely had the tragic death of the Austrian Empress become known, when LOMBROSO began to collect information as to its author with a view to confirm the "family likeness" common to all such miscreants and once more drive home the moral it carries to an all too apathetic Government. Every reminiscence of LUCCHENI'S parentage, youth, and occupation which could be extracted from companions and employers LOMBROSO has laid under contribution, and he has supplemented the whole by as copious an assortment of specimens of the man's handwriting and photographs from time to time taken of him as he could amass. On these materials he has lavished the professional acuteness and the vast personal experience in criminal developments which he is known to possess and the result is before us in an elaborate paper—"LUCCHENI giudicato dal punto di vista antropologico-psichiatrico" ("LUCCHENI judged from the anthropo-psychiatric point of view"). A careful and keenly analytical narrative of the man's illegitimate origin from a dipsomaniac father, of his abandonment when yet of tender years in one of those *vicoveri* which are simply "criminal forcing-houses or preserves," of his early addiction to lying whenever an abnormal vanity prompted it, and of the instability of character thus fostered in one not wholly vicious or even unamiable, leads up to a detailed anthropometric and psychiatric examination in which practice aiding personal aptitude has made LOMBROSO a master. The organic nexus between the traits, intellectual and moral, and the development, cranial and corporeal, is lucidly indicated, until the diagnosis seems fairly established that we have to deal with a "brachycephalous epileptic," in whom, "as in primitive man and as in the typical anarchist, crime is confounded with action"—the natural expression of an "absolute want of the moral sense." Then follows an example of LOMBROSO at his best in a comparison of the calligraphy of LUCCHENI not only with that of other criminals but with LUCCHENI'S own at different stages of his career—a curious and significant resemblance being noted between his handwriting and that of CASERIO immediately before he murdered President CARNOT and also that of the assassin of General ROCHA. In these LOMBROSO finds evidences of a "double personality," further indicated by the man's mental revelations—a *doppia personalità* explaining and reconciling certain contradictions in his life and his actions which the mere forensic pleader is apt to insist upon in abatement of guilt or as disproving innocence. This double personality he has found in nearly all such *belve umane* capable of proceeding without apparent motive from the gentlest dealing to the most ruthless ferocity, dominated by an *impulsività* hysterical or epileptic, betrayed even in the unstable handwriting which alternates between the *macrografia* (large calligraphy) and *micrografia* (small calligraphy) characteristic of them.

Leaving LUCCHENI to be dealt with by the judicial tribunal, "according to its lights" and "in conformity with legal precedent," LOMBROSO appeals once more to his Government for a reform in education which would minimise the production of such diseased developments or in good time save society from the contamination or the risks which their unrestrained intercourse with it must incur. Into this part of his exposition we cannot enter. Such a vast rehabilitation of her system of public instruction as he demands would imply on Italy's part a political

and administrative transformation for which she has long to wait. Meanwhile she can do something towards relieving her "bloated armaments" of their plethora and correcting thereby the anæmia of her primary schools. She has as Education Minister a large-minded and accomplished medical man, well known to be in sympathy with the propagation of the subalpine school. It will be disappointing if another change of Cabinet brings about that "solution of continuity" which has proved fatal to much of her best legislation—to none more than to that repeatedly introduced for scholastic and university reform by his Excellency Dr. BACCELLI. But perhaps the International Congress about to meet in Rome will end by infusing better counsels into her Parliament and restoring her to her healthier and nobler personality in which the CASERIOS and LUCCHENIS, actual and potential, will have ceased to be more than exceptional phenomena.

THE liberty of the press is dear to our hearts, and by liberty we do not mean licence. But a recent trial at the Central Criminal Court would seem to show that the law finds it as difficult a task as less instructed folk to distinguish where the one begins or the other ends. The facts of the case to which we refer will be remembered. GEORGE BEDBOROUGH, a publisher, was charged with publishing and selling certain obscene literature. He pleaded guilty on three counts, the first relating to a book, the second to a lecture, and the third to a magazine. With the last two counts we have nothing to do, but on the charge concerning the book we purpose to speak and we make a somewhat lengthy reference to the matter because of its great importance to medical and scientific authors. The Recorder, after the formal plea of guilty had been entered, said that the defendant had acted wisely in pleading guilty to the three counts, for it would be impossible to persuade anybody that the book, magazine, and lecture were not obscene works. While he was willing to believe that the defendant might at the outset have been gulled into the idea that some might call the book a scientific work, it was impossible for anyone of ordinary judgment not to see that to be a sham. As the defendant had taken only a very small part in the matter the Recorder did not consider it right that he should suffer while others much more guilty went scot free. But the publication of indecent literature must be put down by the strong arm of the law. So he bound the defendant over in his own recognisances in £100 to come up for judgment if called upon.

Now, the result of this trial places the person or persons to whom in the Recorder's opinion greater blame should be attached in a very awkward position. There is, for example, the author of the book. The trial closes his mouth and prevents him from making any defence other than the unsatisfactory method of writing to the newspapers or publishing an Apologia, and Mr. HAVELOCK ELLIS, the writer in question, would seem to be obviously indicated in the Recorder's speech. His book is the first of a series of studies in the psychology of sex and deals with a phase of the question which we must all admit to exist—namely, sexual inversion. It is allowed that this subject touches the very lowest depths to which humanity has fallen. But for all that it is a subject which cannot be ignored and one which is not made any less powerful for ill by the pretence that there is no such thing. But while we admit that the subject of sexual inversion has its proper claims for discussion we are very clear as to the propriety of limiting that discussion to persons of particular attainments. When Mr. HAVELOCK ELLIS'S book was sent to us for review we did not review it, and our reason for this neglect of the work of the Editor of the "Contemporary Science Series" was not connected with its theme or wholly with the manner of its presentment. Mr. HAVELOCK ELLIS'S book is written in a purely dispassionate and scientific style and the only exception we take to the treatment is that we consider some of his quotations unnecessary because a scientific public is already familiar with the originals, and some of them useless, being drawn from tainted sources. We may say also that we do not agree with his view of the question, for we consider that such matters are far better treated from the psycho-pathological standpoint of KRAFT-EBBING than from that of ULRICHS, with whose theory as to the naturalness of homo-sexuality Mr. HAVELOCK ELLIS seems in agreement; but a difference of opinion would not have prevented us from giving publicity to the author's labours. What decided us not to notice the book was its method of publication. Why was it not published through a house able to take proper measures for introducing it as a scientific book to a scientific audience? And for other reasons, which it would serve no purpose to particularise, we considered the circumstances attendant upon its issue suspicious. We believed that the book would fall into the hands of readers totally unable to derive benefit from it as a work of science and very ready to draw evil lessons from its necessarily disgusting passages. It must be pointed out, too, that a more than ordinary danger is attached to Mr. HAVELOCK ELLIS'S work as a book for laymen in that the author's views happen to be that sexual inversion is far more prevalent than we believe it to be and that the legislature does injustice to many by regarding as crimes the practices with which it is bound up. He has failed to convince us on these points; and his historical references and the "human documents" with which he has been furnished will, we think, fail equally to convince medical men that homo-sexuality is anything else than an acquired and depraved manifestation of the sexual passion; but, be that as it may, it is especially important that such matters should not be discussed by the man in the street, not to mention the boy and girl in the street.

What constitutes indecent literature? Is a book indecent because it deals with an indecent subject? Surely there is no reasonable person who will say "Yes." A book written solely in a spirit of scientific inquiry into a subject which, though odious in itself, has yet to be faced cannot possibly be included under the head of indecent literature. But such a book may become indecent if offered for sale to the general public with a wrong motive. BEDBOROUGH was, we suppose, held by the Recorder to be guiltless of wrong motive or he would have been punished. But why this wrong motive should be imputed to the author we cannot guess; while if no such imputation was intended the reference

to the more guilty persons who went scot free is meaningless. Mr. HAVELOCK ELLIS seems to us to have been badly treated in the matter and unfortunate in his publisher, for BEDBOROUGH, it must be remembered, pleaded guilty to the issue of two other indecent works with which the author of "Sexual Inversion" had no connexion whatever. The moral of the story for scientific writers, who must often publish what would be obscene if appearing in doubtful channels or confided to dirty hands, is obvious. It is—be careful about the publisher.

Annotations.

"Ne quid nimis."

THE SOUDAN GAZETTE.

WE heartily congratulate all, of whatever service and rank in that service, whose names compose this week the list of honours in recognition of services in Egypt during the recent military operations. We also congratulate the authorities upon their promptitude in awarding these honours. Among the names occur those of twelve officers of the Royal Army Medical Corps. Surgeon-General William Taylor and Colonel W. H. Macnamara receive the Companionship of the Order of the Bath; Lieutenant-Colonel G. A. Hughes, Major E. M. Wilson, Major H. B. Mathias, and Captain C. S. Spong receive the Distinguished Service Order; Lieutenant-Colonel T. J. Gallwey, C.B., Principal Medical Officer of the Egyptian Army receives brevet rank as full Colonel; Major G. W. Robinson receives brevet rank as Lieutenant-Colonel; Captain R. H. Penton, D.S.O., and Captain H. E. H. Smith receive brevet rank as Majors; Lieutenant E. W. Bliss receives brevet rank as Captain; and Lieutenant-Colonel A. T. Sloggett is granted the next higher rate of pay to his rank. The medal for Distinguished Conduct in the Field has been granted to 5 non-commissioned officers and 1 private of the Royal Army Medical Corps—viz., to First-class Staff-Sergeant Hoist, Sergeant F. Crooke, Sergeant G. A. Benson, Sergeant Scrase, Lance-Sergeant A. P. Mears, and Private A. Davidson. We also record with pleasure that Veterinary-Captain L. J. Blenkinsop receives the Distinguished Service Order, Veterinary-Lieutenant T. E. W. Lewis the brevet rank of Veterinary-Captain, and Veterinary-Captain G. R. Griffith, D.S.O., the next higher rate of pay of his rank; and that the decoration of the Royal Red Cross has been conferred upon Miss S. E. Webb and Miss A. F. Grist of the Army Nursing Service, and Miss E. Geddes of the National Society for Aid to the Sick and Wounded in War. No medical man receives on this occasion the much-coveted Victoria Cross, which is so rightly bestowed upon Captain P. A. Kenna, Lieutenant the Honourable R. H. L. J. de Montmorency, and Private Thomas Byrne, of the 21st Lancers, for gallant behaviour during the famous charge of that regiment; and upon Captain N. M. Smyth, of the 2nd Dragoons Guards for saving the life of a camp-follower at imminent risk to himself during the battle of Khartoum.

LAY CRITICISM OF MEDICAL AFFAIRS.

WHEN the man in the street criticises some isolated incident in which questions scientific or technical alone are involved he is apt to do so by the light of his necessary ignorance, so that he falls inevitably into error and unintentionally into injustice. Similarly the writer for the lay press, who is often but the man in the street with the practised habit of ready writing, is apt not only to be wrong himself but also to mislead others. The same, however, cannot always be said in the occasional cases in which wider interests are involved, in which the public good is at stake, and in which, although scientific knowledge may be necessary in order to fully appreciate them, there is a side of the question not exclusively professional or of which the scientific aspects are capable of being grasped by anyone bringing an intelligent mind to bear upon them. We need not say that the British public is anxious to form correct opinions and to form them honestly, while the British press is, as a rule, anxious to guide it according to its lights upon the right path. On the question of vaccination, for example, valuable support has recently been received by the medical profession from the healthy common-sense and sound criticism brought to bear upon it by the more important part of both press and public. On such questions it is sometimes easier for laymen to give open expression to their opinions than it is for medical men, as they at least cannot be said to be actuated by a bogey known as professional jealousy or prejudice. This, perhaps, is why the criticism recently accorded by an evening contemporary to the society fad known as "Christian Science" has proved of considerable value to the public. The articles, published some weeks ago, have been reprinted in the *Westminster Budget* and are instructive reading. The most stringent form, however, of lay criticism, that which can least easily be ignored and the results of which are most widely known, is to be found in our courts of law. To this, as the result of a recent inquest, which we noted in THE LANCET of Nov. 12th, "Christian Science" is now to be submitted in the person of a lady professing to heal by its means in return for a monetary consideration, and of another upon whom lay, in the opinion of a coroner's jury, the duty of summoning medical aid to a sick man. The danger of coming into collision with the law for the deliberate and intentional neglect of duty towards the sick and helpless has hitherto been demonstrated by cases where the sect known as the Peculiar People have allowed their children to die rather than call in medical aid, a gruesome test of faith to which apparently no "Christian Scientists" have hitherto in this country submitted themselves.

THE FATAL GLOVE-FIGHT.

MR. TROUTBECK, the coroner for Westminster, held an inquiry on Nov. 14th into the circumstances attending the death of Thomas Turner, aged twenty-three years, who died on Nov. 10th in Charing-cross Hospital after engaging in a glove fight at the National Sporting Club on Nov. 7th. The fight was "a match of twenty rounds at 8 st. 8 lb. with 4 oz. gloves." Actually 5 oz. gloves were used. The referee gave evidence that the fight was in no way a severe one. The men were very evenly matched and during the thirteenth round Turner received a light blow on the side of the head close to the right eye but some inches away from the "point." He then collapsed and the referee stopped the fight. After some brandy had been administered he revived, stood up, shook hands with his opponent, sat down again, and became unconscious. Mr. Jackson Lang, who was present as a spectator, said that he attended Turner, who showed symptoms of extreme collapse and inequality of his pupils. Mr. Malcolm Smith, who made the post-mortem examination, said that Turner's heart was extremely weak and small. On the right side of the brain was a clot of blood. The jury returned a verdict of "Accidental death," with a rider suggesting that the club should

instruct a medical man to examine the physical condition of candidates for boxing competitions before allowing them to take part in any fight. Turner, it appears, had not undergone any medical examination before fighting, but even if he had we are not certain whether any medical man could have certified him as unfit. We doubt whether the diminution in the normal size of the heart could have been diagnosed, and if it had been, a small heart need not necessarily mean an unhealthy heart. However, there can be no harm in the National Sporting Club adopting the suggestion of the jury, but this particular accident appears to us to have been unavoidable.

INSTRUCTION IN TROPICAL MEDICINE.

IT is now generally known that at the instigation of Mr. Chamberlain it is proposed to establish an institution for the teaching of tropical medicine. A circular has been sent from the Colonial Office to the medical schools in reference to the matter, the essence of which is the following. In a previous letter it had been stated that Mr. Chamberlain had been endeavouring to make arrangements for giving to colonial medical officers special clinical instruction in tropical medicine, such as is given at Netley and Haslar in the case of medical officers of the Army, Navy, and Indian Medical Services, for from lack of the necessary material this tuition cannot be given in a satisfactory manner at the medical schools. Such arrangements have now been made. "The directors of the Seamen's Hospital at the Albert Docks, which offers exceptional opportunities for studying cases of tropical disease, are providing the necessary buildings and teachers for the accommodation and instruction of the medical officers who may hereafter be selected by the Foreign Office and the Colonial Office for appointments in the tropics. A substantial contribution towards the initial cost of the buildings is being made by the Government, and it is hoped that by Oct. 1st, 1899, it will be possible to receive medical officers at the hospital for purposes of instruction." It is proposed that, as is at present the case, candidates for medical appointments in the British colonial possessions shall be fully qualified before they can be put upon the Secretary of State's list; that from this list a certain number shall be elected annually to fill the vacancies which may occur in the colonial medical service; that the selected candidates shall be trained for a period of at least two months at the Seamen's Hospital; and that they shall then be sent to the colonies or protectorates to which they have been allotted, where, when practicable, they will be attached in the first instance to the headquarters hospital for the purpose of gaining additional experience. The circular goes on to state that although the school at the Seamen's Hospital is designed for the training of medical officers for the Government service, doubtless there will be many other medical men, such as the medical officers of missionary societies and trading corporations and private practitioners who propose to settle in tropical countries, who will be glad to avail themselves of the advantages which such a school can offer. The colonies are being asked to make pecuniary contributions, to collect pathological material for use in the school, and to support the scheme in every possible way. The Royal Society has nominated two competent observers to proceed to Italy and then to Africa to study the subject of tropical malaria, and in addition the Secretary of State for the Colonies has nominated an experienced medical officer of the Colonial Service to aid in the investigations. Such, then, are the main features of the scheme for special instruction in tropical medicine. All members of the medical profession will support Mr. Chamberlain in his endeavours to increase the facilities for the teaching of that branch of medicine which is so important for the welfare of Englishmen residing in tropical countries, but we doubt whether the opinion will be so unanimous as to the suggested methods in the circular of which we have given an abstract. Our naval and army surgeons have not suffered in this respect, for the teaching at Haslar and Netley is of the very best, and at the latter place there are more cases of tropical disease than are to be found in any other hospital in Europe. At nearly all the medical schools, also, courses of lectures on tropical medicine have been delivered by medical men well qualified by experience to do so, but practical teaching, which of course is essential, has been lacking. The question therefore arises, Is the selection of the branch hospital of the Seamen's Hospital at Albert Docks a wise one? There are many objections—for instance, the size of the hospital, the difficulties of access, and the depletion of the old parent hospital at Greenwich of its most interesting material. And then arises the all important question—Are the cases of tropical diseases met with at this hospital sufficiently numerous to justify its selection as a school for the teaching and investigation of such diseases? Full details on this point would be valuable. We may refer to one disease most commonly met with in the tropics—namely, hepatic abscess. In twenty-five years at this hospital and its branch at the docks only 50 cases have been so diagnosed, and it is, of course, open to doubt how many of these were cases of ordinary subphrenic abscess. It would be profitable before any large sum of money is laid out to compare such statistics with those of other hospitals, notably those of Haslar and Netley, the London Hospital, and Guy's Hospital, in order to satisfy the minds of all as to the wisdom of selecting the branch hospital at Albert Docks for the very excellent purpose designed by Mr. Chamberlain. The proposed school is estimated to cost £13,000 to build and equip and £3000 annually to maintain. Of the £13,000 the Colonial Office will contribute £3500. The remaining £9500 it is proposed to levy from the British public, colonists, and Indian subjects. But no information is at hand as to the source of the annual £3000. If it be necessary that tropical medicine should have a school all to itself in London, why should it be placed so far away? The *Dreadnought* is much nearer and with its 235 beds is more capable of affording clinical material than is its branch with its present 18 and proposed 45 beds.

A CASE OF TYPHUS FEVER IN SOUTHWARK.

A REPORT on a recent case of typhus fever was read by Dr. F. J. Waldo, medical officer of health, to the vestry of St. George, Southwark, on Tuesday evening last. The facts of the case were simple. A young man, aged nineteen years, a brushmaker, resident in the parish of St. George the Martyr, was admitted to Guy's Hospital, where he developed what was recognised to be an attack of typhus fever. Dr. Waldo, when notified of the occurrence, at once took steps for the thorough disinfection of the patient's dwelling and its contents. The house consisted of two rooms, inhabited by a family of six persons, father, mother, and four children, of ages ranging from nineteen to ten years, who all slept in a single upstairs bedroom. Of the inmates who had been exposed to the infection four were at once removed to the recently established reception house belonging to the parish, and two days later the fifth entered the same place, where they and their belongings were disinfected. They remained in the reception house upwards of 14 days. The special precautions taken consisted in burning bedding and clothes and in disinfecting and cleansing the rooms at the cost of the vestry, together with the isolation of the persons exposed to infection above

referred to, and in view of the highly infectious nature of typhus fever it is satisfactory to note that no spread of the disease has hitherto occurred. From a careful consideration of the facts Dr. Waldo concluded that the case, if not actually contracted from disease germs latent in the house, was certainly rendered more dangerous by the crowded condition as to space both of the house and of the neighbourhood, and pointed out that powers were already in existence in Part III. of the Housing of the Working Classes Act, 1890, whereby the London County Council as local authority under the Act might provide dwellings for the working classes, the intention of the Act appearing to be the relief of overcrowding in poor districts. Dr. Waldo is to be congratulated upon his expressed intention of following the matter up, and we may add that in all large urban districts medical officers of health will do well to be on the alert against typhus fever, which, though a rare disease in England, is not obsolete. The sad little epidemic of last year in North Kensington would prove this, even if reports of recent cases in Islington, Kensington, and Southwark did not arouse apprehension.

AN INFANT'S STARVATION DIETARY.

WE learn that the Hackney vestry have distributed at the instance of their medical officer of health a circular throughout the district warning all parents and guardians of the real nature of "condensed separated" and "condensed skimmed" milks. It cannot be too widely known that these preparations are utterly incapable of supplying those food elements which are essential for the proper nourishment and growth of the body of an infant. At their best these preparations are but a concentrated nitrogenous and sugary food which is calculated to overtax the digestive organs of the infant, affording no nutrition, and probably leading to exhaustion. It is monstrous, we think, that there is apparently the necessity of issuing such a warning. There is no doubt that thousands of poor mothers buy this stuff under the delusion that it is an efficient substitute for natural milk. Instead of the issue of a warning of this sort we should like to see the sale of milk thus denuded and otherwise fabricated prohibited altogether or else the tins compulsorily labelled in bold and striking letters to the effect that in no case should the contents be regarded as taking the place of the natural article.

THE CERTIFYING OF WORKHOUSE LUNATICS.

A CORRESPONDENT writes to us as follows:—"As medical officer to the workhouse I informed the relieving officer that a patient there required removal on account of insanity. The magistrate to whom the relieving officer applied called in another surgeon who certified the insanity. This is a new departure here, pauper cases having been previously certified as a matter of course by the medical officer." The point raised by our correspondent is one which is not infrequently raised by medical officers of workhouses, and the solution of it not infrequently gives some trouble to boards of guardians. Like most questions of this sort it has two distinct aspects from which it may be viewed—a legal and a common-sense point of view. From a legal point of view the medical officer of the workhouse is powerless to do anything in the matter referred to. The Lunacy Act places absolute discretion in the hands of the justice whom he shall summon to his aid to investigate a case of lunacy concerning which he has received notice in due form from the relieving officer, constable, or overseer of the parish. Nor can the board of guardians or the relieving officer do anything in the matter, if the justice has a fancy for one particular medical man. It is true that the relieving officer sometimes ventures to remark, when he takes his notice, as he usually does, in person to the justice, that "Dr. A. is out of town," or that "Dr. B. has had this particular case under his observation," but he renders himself liable to be told to confine his attention to his own duties. Turning now to the common-sense view, there is much to be said in favour of the medical officer of the workhouse being selected by the magistrate to examine and certify in cases of alleged lunacy brought into the workhouse. No one is so likely to be possessed of all the facts of the case as he is, and no one knows better whether the case is a suitable one for a lunatic asylum, an imbecile asylum, or to be discharged, as the medical officer who has been watching the patient from day to day and who sent the notice to the relieving officer concerning the case. Indeed, in many parishes there is a semi-official agreement (we say "semi-official" because the discretion is so absolutely in the hands of the justice under the Lunacy Act that no agreement can override it) between the guardians and the medical officer of the workhouse, the justice concurring, that the medical officer shall certify in all cases which pass through the workhouse at a fixed fee. But, on the other hand, it is alleged, though we cannot for one moment admit the truth of the suggestion, that an arrangement of this sort is liable to abuse by the medical officer of the workhouse sending notices about cases unnecessarily. Even in cases where it may appear unnecessary it is desirable in doubtful cases that the justice should have an opportunity of examining the case and either discharging or certifying for the removal. Many alcoholic cases present considerable difficulty as to a diagnosis of lunacy and they should always be certified in due form, after consultation between the medical officer and the justice. As well might it be alleged that the justice in summoning a medical man to examine an alleged lunatic of whom he has received information from the relieving officer is guided by personal considerations (it has been alleged, for instance, that a justice thus rewards his family medical attendant) in preference to those of the practitioner's suitability and knowledge of lunacy. In reference to the special case of our correspondent he can do nothing but discuss the matter amicably when occasion offers with the more influential of the guardians and in that way endeavour to induce the justice to acquiesce in some such arrangement as that indicated above.

A JEW'S OBJECTION TO SERVE ON A CORONER'S JURY.

IN THE LANCET of Nov. 12th (p. 1282) we mentioned that a difficulty had arisen in Manchester with regard to viewing the body when a Jew was summoned on a coroner's jury. On Nov. 14th, in the same city, two Jews were summoned—one for the sixth, the other for the second time—to serve on the city coroner's jury, and, as before, they objected to do so on the ground that viewing the body was opposed to their religious convictions and that it was against the Jewish law. The coroner said it would simply make them "unclean" for a certain period. One of the objectors is reported to have said that he "was no Biblical scholar, but a conscientious believer in the Jewish law." The coroner said that if they were made unclean they could not give the blessing in the synagogue for seven days. It was an unpleasant duty to view the body, but they ought to do their duty as citizens, and he asked what reason there was why they should not be unclean? Unfortunately one of the objectors gave it out when the summons was served that he was in London when it was known that he was in Manchester and he was asked if telling an untruth made him unclean. Some elements in the case suggested a comic side, and it would be

easy to turn the whole proceedings into a farce. It does not seem fair, however, that persons whose consciences are so elastic in some directions should string them up so tightly in others as to enable them to enjoy the advantages of citizenship while they evade its duties.

THE DENTAL HOSPITAL OF LONDON.

THE annual dinner of the staff and present and past students will be held on Saturday, Dec. 3rd, at the Hôtel Métropole (Whitehall Rooms), under the presidency of Mr. Storer Bennett. Gentlemen either now or formerly connected with the hospital or medical school who may through inadvertence not have received special notice and who desire to be present are requested to communicate with the dean at the Dental Hospital, 40, Leicester-square.

PAY WARDS IN BRUSSELS HOSPITALS.

ACCORDING to the report of the Conseil des Hospices in Brussels it appears that last year nearly 1100 persons were admitted to the public hospitals as paying patients, the tariff varying from 3 fr. to 15 fr. per diem, for which everything, including professional services and even important operations, was provided. The total amount received last year was 70,000 fr. The medical journals are beginning to complain that this system of admitting paying patients is very unfair to medical men and that reform is needed which must take one of the following shapes: (1) the total abolition of paying wards or (2) the permission for paying patients to select their own professional attendants who must be allowed to have free access to them. It is suggested that the Brussels College of Medical Practitioners should take the matter up.

"MUSCULAR DYSTROPHIES."

IN the *American Journal of the Medical Sciences* for September, 1898, Dr. A. A. Eshner publishes a paper entitled "A Contribution to the Study of the Muscular Dystrophies." The writer first refers to Erb's views—namely, that the changes in the muscles in these conditions are not purely myopathic, but that they may depend upon impalpable nutritional alterations in the ganglion cells of the anterior horns of the spinal cord not capable of demonstration with our present resources—and therefore proposes to designate such cases as come under this group as "muscular dystrophies," thus not indicating definitely any theory of their pathology. Several types of the disease have been described, as, for instance, the idiopathic, the pseudo-hypertrophic, the juvenile or scapulo-humeral of Erb, the infantile of Duchenne, or the facio-scapulo-humeral of Landouzy-Déjérine, and the hereditary of Leyden; but Dr. Eshner thinks it is doubtful if any useful purpose is subserved by this classification, inasmuch as the boundaries of the several so-called types are ill-defined, and many, if not most, cases present features of two or more varieties. It is probable that these several forms represent rather differences in degree and distribution than variations in essential character. Details are then given of 20 cases. Most of the cases are of mixed type, with a predominant tendency to muscular pseudo-hypertrophy. Of the whole number but 4 occurred in females. So far as could be ascertained the first symptoms in the cases reported were noticed in none later than the thirteenth year, in 2 at birth, in 2 during the first year, in 2 during the second year, in 2 during the third year, in 2 during the fourth year, in 3 during the sixth year, in 1 during the seventh year, in 3 during the eighth year, in 2 during the ninth year, and in 1 during the tenth year. The ages of the patients at the times when they came under observation varied from three to twenty-four years. In only 2 of the cases (in brothers) was it definitely ascertainable that similar disease existed in any other member of the same family. In 11 cases one or more of the infectious diseases had preceded the onset of the dystrophic manifestation. In 3 cases there had been falls upon the back before the advent of the symptom of the muscular trouble. Dr. Eshner calls attention to the contraction of the muscles of the upper part of the thigh noted in two of the cases, when the sole of the foot was gently irritated notwithstanding the absence of the plantar reflex.

MEDICO-PSYCHOLOGICAL ASSOCIATION OF GREAT BRITAIN AND IRELAND.

EXAMINATIONS for the certificate of the Association in psychological medicine will be held in London, Edinburgh, Glasgow, Aberdeen, and Dublin, on Thursday, Dec. 15th, 1898. Candidates intending to present themselves for examination should give fourteen days' notice to the Registrar (Dr. Spence, Burntwood Asylum, Lichfield), from whom any further information may be obtained.

THE DIAGNOSTIC VALUE OF KOPLIK'S SPOTS.

IN the *New York Medical Journal* of Oct. 15th, 1898, Dr. J. Sobel confirms the claims of Koplik's spots as a pathognomonic sign both in the pre-eruptive and eruptive stage of measles. As stated in an annotation in THE LANCET of April 30th, 1898, these spots are limited to the mucous membrane of the cheeks and lips and are small, irregular, and bright red. In the centre of each is a minute speck, bluish-white in strong daylight, which, according to Koplik, is absolutely pathognomonic of measles. In the early stages of 35 cases of measles Dr. Sobel never found this sign wanting. On the other hand, he never found them present in 1000 adults suffering from a number of affections or in children affected with various eruptions—varicella, scarlet fever, vaccinia, rötheln, congenital syphilis, urticaria, purpura, erythema multiforme, miliaria, eczema, and bromide and antipyrin rashes. He corroborates Slawyk's observation that the spots occur most frequently opposite the region of the lower molar teeth.

THE SMOKE NUISANCE

ON Nov. 12th a summons was heard at the West London police-court at the instance of the Vestry Clerk of Hammersmith against the East India Produce Company for allowing their chimney at Albert Mills, Upper Mall, to emit black smoke in such quantities as to be a nuisance. The principal witness against the company was Sir William Blake Richmond, who said that the smoke issuing from the chimney was "as black as his coat and so thick that he could not see through it." A vestry sanitary inspector gave similar evidence. The defence was that only yellow and brown smoke issued from the chimney and that smoke-consumers had been applied some two months ago. We do not doubt this fact, but it is quite evident that the smoke-consumers do not do their work properly. Mr. Rose, in describing Sir William Richmond as a public benefactor, referred to the difference of opinion as to the colour of the smoke, and said that that gentleman from his profession was the most fitting witness to describe it. He should make a prohibitory order for the prevention of the recurrence of the nuisance and should allow the vestry five guineas costs. We are glad to see that the incriminated company did not put forward any plea about not being able to get Welsh coal, for whether they can or not that has nothing to do with it. We should like to see the sanitary authorities take in hand the case of certain big restaurants and hotels which are much to blame as regards polluting the air, and also we should like to know whether there is any power by which the London County Council can make it obligatory on the builders and architects of any new house or houses to fit the fireplaces

with some kind of smoke-preventing apparatus. If the council has not such powers the sooner it applies for them the better. New houses are being built every day, and it is ridiculous to allow new centres of pollution to arise without hindrance.

THE RECORDER AND THE SUPERINTENDENT.

OUR special correspondent at Belfast called attention last week to the extraordinary action of the Belfast Recorder in declining to allow Dr. Graham, the medical superintendent of the asylum, a fee for making an affidavit in reference to the condition of a lunatic and for attending the court. Dr. Graham's action has now received considerable official support, as will be seen in our special correspondent's letter in another column, and he is to be warmly congratulated upon the dignified way in which he has pressed his rights. It is to be hoped that the Recorder, who is on all accounts a most kind as well as honourable gentleman, will, now that both his statements in reference to Dr. Graham's predecessor have been disproved and his legal decision called in question, see that the proper course is to reverse his previous judgment. In our opinion life would be intolerable to medical men if they were to be compelled to attend civil courts and prepare important medical reports simply because they are Government officials.

ANKYLOSTOMUM DUODENALE.

IN the *Berliner Klinische Wochenschrift*, No. 36, 1896, Dr. W. Ginn and Dr. Martin Jacoby published certain observations which they had made on the presence of the ankylostomum duodenale and other parasites in the intestines of natives of India and they arrived at two main conclusions: (1) when the ankylostomum has gained a hold amongst a native tribe of India it spreads with great rapidity amongst the members of the tribe; and (2) it appears very probable that a person may have the ankylostoma in his intestine without being the subject of ankylostomiasis. In the summer of this year, 1898, the same observers had opportunities of examining the stools of several natives. Of the fæces of 8 natives of Ceylon, in 8 the ova of ankylostomum duodenale were found, in 7 those of the trichocephalus dispar, and in 6 those of the ascaris. In the stools of 6 natives of Madras in 6 were observed the ova of ankylostomum duodenale, in 6 those of trichocephalus dispar, and in 5 those of ascaris, and in 2 of the Madras natives the larvæ of anguillula intestinalis appeared. The first of the above proportions was therefore corroborated by the new investigations. As supporting the second of their conclusions Dr. Ginn and Dr. Jacoby found that a large number of Asiatics and Africans in whose stools the ova of the ankylostomum were found exhibited no signs of anæmia. Amongst certain tribes there seemed to exist a certain immunity from ankylostomiasis. But the immunity was limited and by no means absolute.

THE CHEMICAL SOCIETY.

WHEN the idea was mooted more than half a century ago of forming a chemical society doubts were expressed by several chemists as to whether success would attend the experiment. The Chemical Society is now amongst the most active scientific bodies connected with the parent Royal Society. We believe, too, that financially its position is very satisfactory. The work done by the Fellows of the Chemical Society during the past fifty years embraces some of the most important discoveries which have appeared in the annals of the world of scientific research. Amongst the fellows are six past presidents who have belonged to the society for half a century. These are Sir Joseph Henry Gilbert, Sir Edward Frankland, Professor William Odling, Sir Frederick Augustus Abel, Dr. Alexander William Williamson, and Dr. John Hall Gladstone. The death of Lord Playfair a few months ago removed a member who had also served as a president. A banquet in honour of these scientific men was projected early in the year and was eventually arranged to take place on June 9th. In consequence, however, of the death of Lord Playfair the banquet was postponed till Nov. 11th, when a very representative company of distinguished men of all branches of science entertained the surviving past presidents who have been Fellows for half a century and whose names appear above. In replying to the toast of "The Past Presidents" which was given by the present President, Professor Dewar, each veteran gave a most interesting historical sketch of the progress of chemistry during the last five decades. The guests present included Mr. Haldane, Q.C., M.P., and Dr. Böttinger of the Reichstag, who replied to the toast proposed in their honour by Dr. T. E. Thorpe, the treasurer of the society. Congratulations were received and announced from the Russian and German chemical societies. Professor Michael Foster, who followed Lord Lister in an interesting speech, remarked that when the British Association met their French friends at Dover and Boulogne next year Fashoda would have been forgotten and they would not be using the resources of science to make the two nations as small as possible but each would be using the resources of the other to advance their common knowledge.

THE SPECTACLE MAKERS' COMPANY'S OPTICAL EXAMINATION AND THE EXAMINATION OF THE BRITISH OPTICAL ASSOCIATION.

OUR contemporary the *Optician* gives in this week's issue the questions set by the examiners of the above bodies for their optical examinations. The examination of the Spectacle Makers' Company is the first of them and is divided into two parts—a *viva voce* and a written, the latter occupying two hours and a quarter. It is stated that 93 candidates presented themselves and that amongst these there were a large number of old members of the industry, the provinces being well represented by candidates from Leeds, Tunbridge Wells, Deal, Tenby, Carlisle, Kilmarnock, and other places. The questions seem to have been carefully thought out, and if anything like satisfactory replies were obtained the standard of knowledge in the possession of the opticians is very high, and it is clear that those who pass the examination will not only be thoroughly grounded in their subject, but will be very competent judges of the prescriptions sent to them by ophthalmic surgeons. As it is certain that a large proportion of the public do, and will always continue to, apply to the optician for incipient failure of vision it is obvious that the glasses selected by the optician should be given with judgment and a sound knowledge of the principles of optics. At the same time the opticians should remember the motto, "Ne sutor ultra crepidam," and take care when unusual or suspicious phenomena are observed to recommend the patient to obtain the advice of the surgeon. We append a few of the questions set at the former of these examinations. 1. How would you determine the focal length of a simple biconvex lens with faces of equal curvature? Give all the practical methods you know of. 2. In what way is the position of the principal focus of a lens dependent upon the choice of the curvatures? Illustrate your answer by reference to the positions of the front and back foci of a plano-convex lens of + 20 D. Does it matter which surface you turn towards the source of light as regards definition? 3. A prescription is given you as follows: − 3 D. C. axis horizontal ⊃ + 1·5 D. C. axis vertical R. & L. State the different methods of working such a lens and give reasons for your choice of curves. 4. A boy, aged ten years, has vision = $\frac{1}{10}$ and with − 2·5 D. S. he sees $\frac{2}{10}$, but on testing, his P.P. is found to be at 12 cm. What is probably his defect and

give your reason? The British Optical Association's examination has also been held this month and twelve candidates presented themselves, out of whom only one failed to pass. This examination occupies about two and a half hours and is divided into three parts—optic, dioptric, and ophthalmometric. Amongst the questions were the following: 1. Show how images formed by concave lenses are always vertical, erect, and diminished. 2. Transpose the following lenses into other combinations: (*a*) 1·73 cyl. axis 45° ⊂ + 3·25 cyl. axis 135°; (*b*) + 3·00 spher. ⊂ − 1·5 cyl. axis 105°; (*c*) + 1·25 sph. ⊂ + 2·75 cyl. axis 90°. 3. In dislocation of the crystalline lens, the periphery of the lens being located, say, in the middle of the pupil; how would you prescribe lenses to assist the refraction for distance? These are sufficiently reasonable questions and no exception can be taken to them from a professional point of view. We must add, however, that in the ophthalmometric part of the examination of this association some of the questions trench on purely medical subjects and imply that the young optician has gone somewhat beyond his *métier*—for example, Question 3 is, How would you diagnose tobacco amaurosis? Question 4 is, How would you measure scotoma? Question 7 is, What are the indications that would lead you to suspect incipient glaucoma? If the candidate be expected to diagnose tobacco amaurosis, why should he not know the retinal changes in Bright's disease and diagnose the nature and position of an intracranial lesion from the observed defects in the field of vision? Surely, all this is quite outside the optician's work

SWEET SPIRIT OF NITRE.

Now that the expression "sweet spirit of nitre" is included in the new Pharmacopœia as a synonym for spirit of nitrous ether druggists are bound to supply this article when asked for under the popular name and the article may be demanded in accordance with the strength officially laid down. It is well known that when druggists in the past were asked for sweet spirit of nitre they now and then supplied an article of deficient strength against which no remedy could be provided because sweet spirit of nitre had no official existence and no recognised definite strength. However, the new Pharmacopœia now provides that when sweet spirit of nitre is asked for the official spiritus etheris nitrosi shall be supplied. It is early yet to decide upon the effect of this alteration but in one case an inquiry has been made. Dr. Bernard Dyer in his report as the analyst to the county of Leicester found that of the 51 samples of sweet spirit of nitre obtained 23 were of first-class quality, 21 were fairly good, while 7 samples were decidedly unsatisfactory. In the last instances the retailing druggists were only warned, as it was considered probable that these specimens had been in stock before the new Pharmacopœia was published. The inquiry is instructive and timely and it should place retailing druggists on their guard so that they may not unwittingly commit an offence under the Food and Drugs Act.

MEDICAL OFFICERS OF HEALTH AND PRIVATE PRACTICE.

THE vacancy of the post of medical officer of health of the Burgh of Perth is the cause of much discussion as to whether the newly-appointed medical officer should be debarred from private practice and at the same time of course be offered suitable remuneration. Hitherto in the Burgh this has not been the case, although the county medical officer is debarred. The late medical officer for the Burgh, Dr. Simpson, now dead, had, we believe, £105 per annum as medical officer and £52 10*s.* as police surgeon, and was in addition allowed to carry on private practice. To our minds it is in no way desirable that the medical officer of health should be also in private practice, for the holding of the two posts must at times bring him into disagreeable and anomalous positions. To begin with he might very well often come into conflict with his fellow practitioners and as he is in private practice himself, with professional rivals. Also cases might arise where as medical officer of health his duty might be directly opposed to his interests as a practitioner. It is for these reasons that we hope that the Burgh of Perth will see its way to appoint a medical officer of health who will be debarred from private practice but who will also receive sufficient remuneration to enable him to devote his whole time to the duties of his office and who will be in a position to exercise them without fear or favour.

THE KITCHENS OF PARISIAN EATING-HOUSES.

IN December, 1897, the Société Française d'Hygiène resolved to appoint a commission to inquire into the sanitary conditions under which the kitchen employés in Parisian hotels, restaurants, and other establishments of a similar character where food is prepared for public consumption, are compelled to carry on their work, and in due course a report embracing the whole subject was published in the *Journal d'Hygiène* over the signature of Dr. Bruhat, the secretary of the commission. It is not too much to say that the condition of things disclosed in this exhaustive report can only be described as deplorable. Until a few years ago all kitchens, with their offices and annexes, where eatables were cooked for the use of the public were under Government surveillance by virtue of several decrees dating back upwards of twenty years, but in July, 1894, this important safeguard to the general health was withdrawn. A Ministerial circular suddenly appeared directing the sanitary inspectors of the municipality of Paris to abstain in future from the inspection of eating-houses of every description because it had been ruled that such establishments were no longer to be regarded as trading places but rather as partaking of the nature of private houses. And yet, to judge by the copious extracts which Dr. Bruhat has cited from official reports dated prior to the retrogressive circular, the need for efficient supervision and control remained as urgent as ever. Writing to the Minister of Commerce in 1892 M. de Maroussen, with reference to the junior employés in public kitchens, says: "A wretched existence; cooking arrangements badly installed; hygienic conditions deplorable." In July, 1888, MM. Hudelo and Napias wrote the following description of the kitchen in one of the principal boulevard restaurants:—

"Everything is on the narrowest scale and one was consequently roasted on all sides. The ceiling is scarcely 3 metres high, while overhead the gas flares. Under foot are the pipes from the range, between which and the grill the distance is so small that if two men want to pass each other one of them has to squeeze himself up against the heated metal. To the left is the spit; alone the right end is unoccupied. Imagine eight or ten people working together under such circumstances! This is, nevertheless, the state of affairs in 80 per cent. of the kitchens not only in Paris but also in our larger towns, and even in Algeria."

In a report by M. Schaere the following passage occurs:—

"The kitchen is underground, less than 2½ metres high, and along with the larder and offices receives its light and air through narrow slits, three opening at the level of the street and two on the garden. There are two ventilators, but they work badly. The street sewer being on a higher level than the floor it is impossible to drain into it, so a cesspit has been sunk which has to be emptied by pumping. The smell from it is most offensive. The sink drains into the sewer, but sometimes the contents of the latter inundate the kitchen. A urinal hard by is in communication with the cess-pit."

Another reporter writes:—

"The kitchen is invariably the filthiest spot in the house. ..... In some establishments you will find a latrine in direct communication with the kitchen or else with the

larder, but this is a trifle, seeing that in others the hands are obliged to convert provision-tins into urinals, being forbidden to obstruct the narrow space by passing to and fro."

Working from five or six o'clock in the morning until ten o'clock at night, with only short intervals for eating, but none for repose, it is no wonder that the hapless people whose fate has made them Parisian cooks should suffer excessively from preventable diseases, chiefly tuberculosis and gastro-hepatitis, and be the victims of an abnormal mortality. Their surroundings are insanitary to a degree almost beyond belief, and in addition they have to breathe an atmosphere heated "not merely up to 104° F., which is the ordinary temperature in Parisian kitchens, but even as high as from 140° to 160°." The number of cooks employed in the public eating establishments of Paris is estimated at 20,000, of whom 8000 are males and 12,000 females. During the quinquennium 1891–95 the death-rate among them was 26·98 per 1000 per annum, or about double that of the adult population of the city. The same factors which are responsible for the unhealthiness thus so lamentably exemplified must also react disadvantageously on the food prepared. For the sake of the poor people chiefly concerned and also in the interests of the immense number of visitors to Paris, of whom British subjects form no small part, who naturally are obliged for the most part to frequent hotels and restaurants, it is imperatively necessary that remedial measures of a radical description should be forthwith devised for the crying evil which has been so fearlessly exposed by the Société d'Hygiène. The commission, in conclusion, strongly recommend the immediate resumption of systematic supervision in all kitchens where food or comestibles of any kind are prepared for general use; and they are also of opinion that every employé should be allowed at least one free day per month. These recommendations do not err on the side of unreasonableness, but no doubt it is better to ask for a little and get it than to paralyse a timid executive by an excessive demand.

CHRISTOPHER COLUMBUS AND THE MEDICAL PROFESSION.

IT is stated in *Italia Termale* that Dr. A. M. Fernandez de Ybarra has published an interesting work on the medical history of the expeditions which Christopher Columbus undertook in his search for a new world. During the great discoverer's first voyage his slender following, which all told numbered but 120 souls, included two physicians—to wit, Master Alonzo, on board the caravel *Santa Maria*, and Master Juan, on board the *Pinta*. When Columbus returned to Spain the last-named officer remained behind at Fort Navidad, and made one of the thirty-eight victims who were massacred by the natives of San Domingo. The principal medical officer of the second expedition, which consisted of 1500 men, and sailed from Cadiz in the month of September, 1493, was Dr. Diego Alvarez Chanca, of Seville, physician in ordinary to the King and Queen of Spain. In a report addressed to Ferdinand Columbus referred to this officer in the following flattering terms: "I make a point of directing the attention of your Highness to the never-ending work wherewith Dr. Chanca is overwhelmed in consequence of the heavy sick roll together with the dearth of provisions; but in spite of all difficulties he evinces the utmost zeal in everything that concerns his art. Your Highness having left me free to fix the amount of his remuneration (although it is perfectly certain that neither I nor anyone else in my position could give him a sum even approaching what he would gain on land), I have opened for him an annual credit of 50,000 maravedis."[1] Dr. Chanca is given the credit of having cured Columbus of a malignant fever which had brought him to death's door, and he is also said to have been the first person to write a description of the New World, his contribution taking the form of a report to the Municipal Council of Seville. On his return to Spain he produced his "Commentum Novum in Parabolis Divi Arnoldi de Villanova" which was published at Seville in 1514. But it was not solely to the members of the medical profession who sailed in his company that Columbus expressed his indebtedness. Paolo dal Pozzo Toscanelli, a famous physician and astrologer of Florence, gave him what is described as excellent advice regarding the possibility of reaching India from the West, and in order to simplify matters likewise presented him with a map showing the course he ought to steer. The value of the Florentine's counsel is open to question, but there was another less pretentious practitioner who undoubtedly was able to render the hero an inestimable service at a turning point in his career. Discouraged by persistent opposition and well-nigh broken-spirited, Columbus had sought asylum in the convent of Santa Maria della Robida in Andalusia, whereupon the Prior believing him to be mad sent for Dr. Garcia Fernandez, an unassuming country surgeon from the neighbouring hamlet of Palos do Moguer. Happily the village Galen was a man of discernment. He quickly perceived that his patient was no lunatic but a man of genius, and instead of consigning him to chains and a dungeon after the fashion of the day he not only restored him to health by his treatment but also won for him the goodwill of the Prior, who furnished him with means and introduced him at Court. It is generally stated that Columbus died from gout, but Dr. de Ybarra disagrees with the authorities who are responsible for this diagnosis. In his opinion death was due to cardiac complications consequent on chronic rheumatism, and in support of this contention he adduces the testimony of several persons who aver that they saw the dying navigator during the last month of his life and that his body was enormously swollen from the chest downwards.

[1] About £144 sterling.

YELLOW FEVER IN NEW YORK CITY.

THE first case of yellow fever which has occurred in New York city for many years terminated fatally about three weeks ago. Colonel Waring, one of the best known public men in New York, who made a name for himself and earned the lasting gratitude of his fellow citizens under the *régime* of the late mayor by efficiently and thoroughly cleansing the streets, had been sent by the United States Government to Cuba to make a report on the condition, and to suggest plans for the sanitary regeneration, of Havana and Santiago. Colonel Waring having completed his task arrived at New York on Tuesday, Oct 25th. On his arrival he complained of feeling unwell, but thinking that he was suffering from a slight attack of malaria he proceeded to his home to rest for a day or two before going to Washington to report the results of his mission to President McKinley. The family physician was called in and he decided that his patient was suffering from a severe cold and it was not until the Thursday that suspicions were aroused as to the true nature of the malady. Dr. Doty, the health officer of New York Harbour, was summoned in consultation and he quickly came to the conclusion that Colonel Waring had contracted yellow fever. At 1 A.M. on Saturday, Oct. 29th, the dreaded black vomit made its appearance and, becoming weaker and weaker after each recurrence of the vomit, Colonel Waring expired at eight o'clock on Sunday morning. Immediately after death the body was placed in a lead coffin which was hermetically sealed and was conveyed on board the Health Department boat to the State crematorium on Swinburne Island, where it was burned. Much fear was evinced that the contagion might spread and every sanitary

precaution was taken to prevent such an occurrence. It was pointed out, however, by experts that at this time of the year and in a city like New York where the hygienic arrangements were so good there was no cause for alarm. Colonel Waring was an authority on sanitary engineering and he had written many books on the subject. It will be remembered that in 1896 Colonel Waring made a tour of the large towns of the European continent and of Great Britain in order to inspect their different methods of sewerage, draining, and street cleaning, the results of his investigations being set forth in a series of valuable articles.

DR. GIUSEPPE SANARELLI, of the Uruguayan Medical School and Director of the Hygienic Institute at Montevideo, whose discovery of the microbe of yellow fever has brought him much distinction, has been offered by Dr. Baccelli (Minister of Public Instruction) the chair of Hygiene in the University of Bologna left vacant by Professor Roncati. The offer was made in accordance with the express wish of the Bolognese medical faculty.

THE Alvarenga prize of the College of Physicians of Philadelphia for 1898 has been awarded to Dr. S. A. Knopf of New York City for his essay, entitled "Modern Prophylaxis of Pulmonary Tuberculosis and its Treatment in Special Institutions and at Home."

THE County Council of Wiltshire on Tuesday last, after a debate lasting nearly three hours, resolved by 31 votes against 29 to appoint a medical officer of health to the county at a salary of £500 per annum with travelling expenses.

A DONATION of £1000 from "H." and one of £500 from "E." have been received towards the Charing-cross Hospital special appeal for £100,000.

THE ROYAL COMMISSION ON THE METROPOLITAN WATER-SUPPLY.

THE thirty-third sitting of the Royal Commissioners was held at the Guildhall, Westminster, on Nov. 8th. Lord Llandaff, the chairman, presided, and the other Commissioners present were the Right Hon. John William Mellor, Q.C., Sir John Dorington, M.P., Sir George Barclay Bruce, Mr. de Bock Porter, Major-General Scott, and Mr. Robert Lewis.

At the commencement of the sitting Mr. John Hollams continued his evidence. The other witnesses examined were Sir Henry Knight, chairman to the Southwark and Vauxhall Company; Mr. Walter Hunter, engineer to the Grand Junction Company; Mr. Restler, engineer to the Southwark and Vauxhall Company; and Mr. Thomas Parkes, engineer to the Lambeth Company.

Mr. JOHN HOLLAMS, in answer to the CHAIRMAN, said that the proportion of interest on the Debenture Stock which it would be necessary to issue for carrying out the proposed inter-communication between the companies could be arranged by an arbitrator. In case of water being taken from the Southwark and Vauxhall Station at Battersea each company should, in his opinion, pay the interest on the debentures issued in the manner arranged by the arbitrator. If one or more companies used the water that company or those companies should pay for the amount used.

In answer to Mr. DE BOCK PORTER the witness said that if the mains of one company were used to conduct water for the use of another a payment for the "way leave" should be charged.

In answer to the CHAIRMAN the witness said that in the East-end of London many houses were supplied at a loss to the company; practically the rich were made to pay for the poor. The Staines Reservoir Act prohibited intersale of water derived from that source and there were many clauses in existing Acts of the water companies which would have to be repealed to render an inter-communication system legally possible. Statutory provisions would also have to be made to give the water companies power to spend money outside their authorised districts of supply. The witness thought, however, that a scheme of inter-communication might be sanctioned by a very simple Act of Parliament.

Lord LLANDAFF said that the Commissioners wished to hear from the engineers of the water companies what their resources were; to know what extra amount of water each company had over that required for the supply of their customers; and whether they possessed sufficient plant for the filtration and pumping of that water.

A question arose with regard to the legality of a circular recently issued by the Local Government Board referring to the Act of 1897, and on this point the CHAIRMAN said he would not take upon himself to express the slightest opinion. The witness contended that the companies were not bound to supply water in times of drought and that should the companies carry out a scheme for inter-communication they would lay upon themselves a serious burden for the benefit of the public.

Sir HENRY KNIGHT, chairman to the Southwark and Vauxhall Company, said that in his opinion the scheme of inter-communication which had been brought before the Commissioners was practicable. It was necessary that some such scheme should be adopted to satisfy "public outcry." The witness said it would be possible for a comparatively small sum to make some provision for inter-communication. The Battersea scheme must be looked upon as a "continuous perpetual" arrangement made to satisfy "public anxiety." The witness did not admit that there had been an insufficient supply of water in East London during the present summer. There was, he said, "not such an admirable supply" as usual and he admitted not a constant supply. If any want of water had been experienced it was due to "the ridiculous system" which had recently been inaugurated of building houses without a sufficient storage for water. The witness emphasised his opinion by thumping the table and suggested that no sane man would have a house without sufficient storage of water.

The CHAIRMAN pointed out that the Commissioners had seen specimens of matter found in cisterns in the East-end and that they were not attractive. The witness related his personal experience that when his cistern was cleared out "not half a teacupful of sediment" was found in it, and he advocated a cistern with a sloping bottom, an arrangement, it may be remembered, which has already been brought before the Commissioners, and which has, as the Chairman pointed out at the time, the merit of conducting any deposit straight into the supply-pipe of the consumers for their immediate consumption.

In answer to Major-General SCOTT the witness said he could not tax his memory with regard to the exact area of the filter-beds of the company of which he was chairman, but he was not prepared to deny that they had only twenty-two acres of filter-beds for the filtration of 46,000,000 gallons of water daily. He stated that the East London Waterworks Company had been supplied with water derived by this company from sources other than the Thames. The supply given was what he called "manufactured water" (filtered water). With regard to the amount of water drawn by the metropolitan companies from the Thames the witness gave it as his opinion that no limitations should be placed with regard to the amount which they should be allowed to take. As long as London wanted water to drink it should be taken from the Thames. It was perfectly useless and unnecessary that anything like 200,000,000 gallons should be allowed to flow over Teddington Weir. It occasionally happened, doubtless, that barges got aground, but there were two tides a day so that they were able to get off.

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Mr. RESTLER, engineer to the Southwark and Vauxhall

Waterworks Company, agreed with the last witness that if the Battersea scheme were carried out it would be the best solution that could be arrived at for the whole question.

In answer to a question from the CHAIRMAN the witness pointed out that there would be great difficulties in supplying the East London Waterworks Company with an extra amount of water by the passage of water through the mains of more than one water company. The chief difficulty arose from the fact that the pressures in the mains of different companies varied from one another and that the pressures varied in the mains of each company at different times during the day. From this simple consideration it followed that a passage, for example, of the Chelsea Company's water through the mains of the Southwark and Vauxhall Company to those of the East London Company would practically not be a good working scheme.

Mr. THOMAS F. PARKES, engineer to the Lambeth Company, said that his company with their present plant and equipments would be unable to spare any water during the time of maximum supply—that is to say, in the months of July and August. They had, however, storage works in progress which would enable them to supply 5,000,000 or 6,000,000 gallons daily. They had not, however, legal power to abstract that extra amount of water from the Thames. The witness stated that they obtained a considerable amount of water from gravel beds near the Thames.

The thirty-fourth sitting of the Royal Commissioners was held at the Guildhall, Westminster, on Monday, Nov. 14th. The Commissioners present were Lord Llandaff (the chairman), Major-General Scott, Mr. de Bock Porter, and Mr. Robert Lewis. The whole of the sitting was occupied by the examination of Mr. William Booth Bryan, engineer to the East London Waterworks Company.

It may be well to mention here that since the last sitting a paper has been printed for the benefit of the Royal Commissioners giving a plan showing the proposed trunk mains which would have to be made in the Battersea scheme for supplying water to the various companies. The paper is called "Amended Report of the Engineers of the London Water Companies prepared in view of events which have happened since their report, dated October, 1897, on the ...ake interchangeable connexions between the ...al companies." It will be remembered ...ich would be used are the Battersea ...wark and Vauxhall Company, the ...f the Grand Junction Company, ... of the New River Company, the ...uthwark and Vauxhall Company, ...ion of the Lambeth Company. ...t present exist would be utilised. ... conducts the unfiltered water to ...main which conducts the filtered ...head, and the 24 in. main which ...t-square. The new mains which ...: (1) from Battersea to Campden ...Hill to Poland-street, where it would ...longing to the New River Company; ... the Angel, Islington, to a New River ...ttersea to Brixton Hill; and (5) from ... Tower subway through which the water ...for the supply of the East London Company's mains. At this sitting no intimation was made that the Battersea scheme was unanimously accepted by the directors of the various metropolitan water companies.

Mr. BRYAN, in answer to the CHAIRMAN, said that he had been sixteen years chief engineer to the East London Waterworks Company. The population at present supplied by the company was 1,300,000. The quantity supplied monthly from June to October during the year 1898 was as follows:—June, 42,563,000 gallons per day; July, 44,959,000 gallons per day; August, 43,170,000 gallons per day up to August 22nd, when they commenced the intermittent supply in place of the constant; August, 40,656,000 gallons per day as the average of the whole month; September, 33,149,000 gallons per day as the average of the whole month; and October, 34,202,000 gallons per day as the average of the whole month.

The CHAIRMAN said that he had received a communication from a gentleman named Glover, living at Upton Park, who said that in his case it would be more nearly the truth to say that the house received 25 gallons than that that amount was supplied to each consumer. He further observed that his was not an isolated case. On many days water did not reach his cisterns, so that he was placed in a worse position than that of the people who obtained their water direct from the main.

The witness admitted that a difficulty had arisen in the case of some of the high cisterns when the water was first turned on, because the lower cisterns had first to be filled, and only after this was done could the water reach the higher cisterns.

Mr. DE BOCK PORTER asked if in that case in some houses the highest cisterns got no supply at all. The witness, in reply, said that if that were the case the customers would have to get their water from taps on the lower floors. He added that he had received very few complaints and that if the gentleman (Mr. Glover) had written to him he would have been able to see whether the fittings of the house were in an efficient state. In many cases it was found that the ball-taps were out of order. It occasionally happened also that the taps were left running in a street so that the water did not reach some of the cisterns. In one case the amount of water which was allowed to run away through open taps was so great that the sewer man came to the company's foreman and stated that he could not go into the sewer because of the immense amount of water which was running away. When the turncock turned off the taps the water in the sewer was immediately lowered and the man was able to resume his work. During the time in which the company gave an intermittent supply they published a time-table like a railway time-table saying at what hour the water would be turned on.

The CHAIRMAN asked if when water was turned on in the morning from six to eight o'clock it would be necessary for a would-be consumer to rise and turn on his tap? and he suggested that as an alternative a water-rent payer might think it advisable to leave the tap running rather than rise at so early an hour. The witness admitted that this might be so and said that the company had less trouble at the present time than they had had at first with regard to the number of taps which were left running. The supply of water was still restricted to four hours a day throughout the whole district. The witness handed in a paper giving the daily supply of water during the months of July, August, September, and October. It is as follows:—

Source from which water is taken.	Gallons pumped into the district daily on the average during:—			
	July.	August.	September.	October.
1. River Lee	9,479,000	6,354,000	1,032,000	4,693,000
2. River Thames and wells	16,967,000	19,056,000	19,153,000	18,419,000
3. Storage reservoirs.	17,500,000	9,900,000	4,600,000	*Nil*
4. New River Company.	1,013,000	5,346,000	6,129,000	6,093,000
5. Southwark and Vauxhall Company.	—	—	2,029,000	4,801,000
6. Kent Company.	—	—	206,000	196,000
Total pumped into district of supply	44,959,000	40,656,000	33,149,000	34,202,000

The storage reservoirs, which have a capacity of 1,200,000,000 gallons, were filled on June 20th. The amount of water taken during the months of July, August, and September reduced them to a very low state at the end of that month. The witness contended that there was really no water famine because during the driest time 33,000,000 gallons a day were distributed and this quantity amounted to an average of 25 gallons per head. He contended that had there been proper cisterns or means of storage little inconvenience would have been felt. Cisterns had been removed from the houses contrary to the wishes of the company soon after a constant supply of water was first given. The sanitary officers and authorities could not insure cleanliness of the cisterns and for that reason they had caused them to be removed. The supply of covered cisterns would remedy this evil, but the company had not sufficient power to enforce such a regulation. The company had provided 30,000 jars for storage of water and had put up stand-pipes to the mains so that water could be drawn from them. In the opinion of the witness the real evil was due to the absence of cisterns. This deficiency caused considerable inconvenience even in case of a temporary breakdown in the water-supply, which might be due to the fracture of a main.

In reply to the CHAIRMAN the witness said that it was

precaution was taken to prevent such an occurrence. It was pointed out, however, by experts that at this time of the year and in a city like New York where the hygienic arrangements were so good there was no cause for alarm. Colonel Waring was an authority on sanitary engineering and he had written many books on the subject. It will be remembered that in 1896 Colonel Waring made a tour of the large towns of the European continent and of Great Britain in order to inspect their different methods of sewerage, draining, and street cleaning, the results of his investigations being set forth in a series of valuable articles.

DR. GIUSEPPE SANARELLI, of the Uruguayan Medical School and Director of the Hygienic Institute at Montevideo, whose discovery of the microbe of yellow fever has brought him much distinction, has been offered by Dr. Baccelli (Minister of Public Instruction) the chair of Hygiene in the University of Bologna left vacant by Professor Roncati. The offer was made in accordance with the express wish of the Bolognese medical faculty.

THE Alvarenga prize of the College of Physicians of Philadelphia for 1898 has been awarded to Dr. S. A. Knopf of New York City for his essay, entitled "Modern Prophylaxis of Pulmonary Tuberculosis and its Treatment in Special Institutions and at Home."

THE County Council of Wiltshire on Tuesday last, after a debate lasting nearly three hours, resolved by 31 votes against 29 to appoint a medical officer of health to the county at a salary of £500 per annum with travelling expenses.

A DONATION of £1000 from "H." and one of £500 from "E." have been received towards the Charing-cross Hospital special appeal for £100,000.

THE ROYAL COMMISSION ON THE METROPOLITAN WATER-SUPPLY.

THE thirty-third sitting of the Royal Commissioners was held at the Guildhall, Westminster, on Nov. 8th. Lord Llandaff, the chairman, presided, and the other Commissioners present were the Right Hon. John William Mellor, Q.C., Sir John Dorington, M.P., Sir George Barclay Bruce, Mr. de Bock Porter, Major-General Scott, and Mr. Robert Lewis.

At the commencement of the sitting Mr. John Hollams continued his evidence. The other witnesses examined were Sir Henry Knight, chairman to the Southwark and Vauxhall Company; Mr. Walter Hunter, engineer to the Grand Junction Company; Mr. Restler, engineer to the Southwark and Vauxhall Company; and Mr. Thomas Parkes, engineer to the Lambeth Company.

Mr. JOHN HOLLAMS, in answer to the CHAIRMAN, said that the proportion of interest on the Debenture Stock which it would be necessary to issue for carrying out the proposed inter-communication between the companies could be arranged by an arbitrator. In case of water being taken from the Southwark and Vauxhall Station at Battersea each company should, in his opinion, pay the interest on the debentures issued in the manner arranged by the arbitrator. If one or more companies used the water that company or those companies should pay for the amount used.

In answer to Mr. DE BOCK PORTER the witness said that if the mains of one company were used to conduct water for the use of another a payment for the "way leave" should be charged.

In answer to the CHAIRMAN the witness said that in the East-end of London many houses were supplied at a loss to the company; practically the rich were made to pay for the poor. The Staines Reservoir Act prohibited intersale of water derived from that source and there were many clauses in existing Acts of the water companies which would have to be repealed to render an inter-communication system legally possible. Statutory provisions would also have to be made to give the water companies power to spend money outside their authorised districts of supply. The witness thought, however, that a scheme of inter-communication might be sanctioned by a very simple Act of Parliament.

Lord LLANDAFF said that the Commissioners wished to hear from the engineers of the water companies what their resources were; to know what extra amount of water each company had over that required for the supply of their customers; and whether they possessed sufficient plant for the filtration and pumping of that water.

A question arose with regard to the legality of a circular recently issued by the Local Government Board referring to the Act of 1897, and on this point the CHAIRMAN said he would not take upon himself to express the slightest opinion. The witness contended that the companies were not bound to supply water in times of drought and that should the companies carry out a scheme for inter-communication they would lay upon themselves a serious burden for the benefit of the public.

Sir HENRY KNIGHT, chairman to the Southwark and Vauxhall Company, said that in his opinion the scheme of inter-communication which had been brought before the Commissioners was practicable. It was necessary that some such scheme should be adopted to satisfy "public outcry." The witness said it would be possible for a comparatively small sum to make some provision for inter-communication. The Battersea scheme must be looked upon as a "continuous perpetual" arrangement made to satisfy "public anxiety." The witness did not admit that there had been an insufficient supply of water in East London during the present summer. There was, he said, "not such an admirable supply" as usual and he admitted not a constant supply. If any want of water had been experienced it was due to "the ridiculous system" which had recently been inaugurated of building houses without a sufficient storage for water. The witness emphasised his opinion by thumping the table and suggested that no sane man would have a house without sufficient storage of water.

The CHAIRMAN pointed out that the Commissioners had seen specimens of matter found in cisterns in the East-end and that they were not attractive. The witness related his personal experience that when his cistern was cleared out "not half a teacupful of sediment" was found in it, and he advocated a cistern with a sloping bottom, an arrangement, it may be remembered, which has already been brought before the Commissioners, and which has, as the Chairman pointed out at the time, the merit of conducting any deposit straight into the supply-pipe of the consumers for their immediate consumption.

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It may be well to mention here that since the last sitting a paper has been printed for the benefit of the Royal Commissioners giving a plan showing the proposed trunk mains which would have to be made in the Battersea scheme for supplying water to the various companies. The paper is called "Amended Report of the Engineers of the London Water Companies prepared in view of events which have happened since their report, dated October, 1897, on the proposal to make interchangeable connexions between the mains of the several companies." It will be remembered that the stations which would be used are the Battersea station of the Southwark and Vauxhall Company, the Campden-hill station of the Grand Junction Company, Claremont-square station of the New River Company, the Nunhead station of the Southwark and Vauxhall Company, and the Brixton Hill station of the Lambeth Company. Some of the mains which at present exist would be utilised. These are, the main which conducts the unfiltered water to the Battersea station, the main which conducts the filtered water from Battersea to Nunhead, and the 24 in. main which conducts water to Claremont-square. The new mains which would have to be laid are: (1) from Battersea to Campden Hill; (2) from Campden Hill to Poland-street, where it would join an existing main belonging to the New River Company; (3) from Battersea to the Angel, Islington, to a New River main; (4) from Battersea to Brixton Hill; and (5) from Nunhead to the Tower subway through which the water would pass for the supply of the East London Company's mains. At this sitting no intimation was made that the Battersea scheme was unanimously accepted by the directors of the various metropolitan water companies.

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The witness admitted that a difficulty had arisen in the case of some of the high cisterns when the water was first turned on, because the lower cisterns had first to be filled, and only after this was done could the water reach the higher cisterns.

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Source from which water is taken.	Gallons pumped into the district daily on the average during:—			
	July.	August.	September.	October.
1. River Lee	9,479,000	6,354,000	1,032,000	4,693,000
2. River Thames and wells	16,967,000	19,056,000	19,153,000	18,419,000
3. Storage reservoirs.	17,500,000	9,900,000	4,600,000	*Nil*
4. New River Company.	1,013,000	5,346,000	6,129,000	6,093,000
5. Southwark and Vauxhall Company.	—	—	2,029,000	4,801,000
6. Kent Company.	—	—	206,000	196,000
Total pumped into district of supply	44,959,000	40,656,000	33,149,000	34,202,000

The storage reservoirs, which have a capacity of 1,200,000,000 gallons, were filled on June 20th. The amount of water taken during the months of July, August, and September reduced them to a very low state at the end of that month. The witness contended that there was really no water famine because during the driest time 33,000,000 gallons a day were distributed and this quantity amounted to an average of 25 gallons per head. He contended that had there been proper cisterns or means of storage little inconvenience would have been felt. Cisterns had been removed from the houses contrary to the wishes of the company soon after a constant supply of water was first given. The sanitary officers and authorities could not insure cleanliness of the cisterns and for that reason they had caused them to be removed. The supply of covered cisterns would remedy this evil, but the company had not sufficient power to enforce such a regulation. The company had provided 30,000 jars for storage of water and had put up stand-pipes to the mains so that water could be drawn from them. In the opinion of the witness the real evil was due to the absence of cisterns. This deficiency caused considerable inconvenience even in case of a temporary breakdown in the water-supply, which might be due to the fracture of a main.

In reply to the CHAIRMAN the witness said that it was

difficult to say whether the company had power to order that cisterns should be put into the houses of existing customers. There was a clause in one of the Acts of the company which provided that cisterns should be fixed. The clause, however, did not specify the size or character of the cistern and consequently the company had practically little control. In some cases cisterns of about the size of a hat had been put in. In many cases, especially in the Essex district, it had been the habit of the builder to fix a cistern and demand that the water should be laid on to a new house. After the water had been laid on the cistern was removed and taken to the next house. By this simple device one cistern had been made to do duty for a whole row of houses.

The CHAIRMAN asked whether it was not possible to prevent so transparent a fraud and the witness replied that there would be many difficulties in obtaining a conviction in such a case.

The CHAIRMAN asked how the company proposed to obtain a constant supply during the year 1899. The witness replied that should a similar drought occur he thought that with the connexions already made the company would be able to keep up a constant supply by obtaining the amount of water given in a table which he handed in. The witness assumed that 46,000,000 gallons in July, 45,000,000 gallons in August, 44,000,000 gallons in September, and 42,000,000 gallons daily in October would be required to keep up a constant supply. The table is as follows:—

Source from which water is taken.	Gallons pumped into the district daily on the average.			
	July.	August.	September.	October.
1. River Lee	10,000,000	6,000,000	1,000,000	4,000,000
2. River Thames and wells	24,000,000	24,000,000	24,000,000	24,000,000
3. Storage reservoirs	*Nil.*	3,000,000	7,000,000	2,000,000
4. New River Company and during August, September, and October with the assistance of the Grand Junction and West Middlesex Companies.	6,000,000	6,000,000	6,000,000	6,000,000
5. Southwark and Vauxhall Company	6,000,000	6,000,000	6,000,000	6,000,000
Total pumped into district	46,000,000	45,000,000	44,000,000	42,000,000

The witness said that in order to carry out the arrangements which he had indicated they would take no water from their storage reservoirs until the end of July and that the position would, he hoped, then be as follows:—

Storage water	1,200,000,000 gallons.	
August, 3,000,000 gallons per day ...	93,000,000 ,,	
	1,107,000,000 ,,	(i.e., at end of August.)
September, 7,000,000 ,, per day ...	210,000,000 ,,	
	897,000,000 ,,	(i.e., at end of September.)
October, 2,000,000 ,, per day ...	62,000,000	
	835,000,000 ,,	(i.e., at end of October.)

The company propose for the present to "husband" their storage water and hope to fill their reservoirs and then to keep them full until August 1st. They would then be able to give a constant supply and would have 835,000,000 gallons in store at the end of October. It might also be possible for them to obtain an additional 2,000,000 gallons a day from the New River Company, which would get this amount supplied by the Grand Junction and West Middlesex Companies. The means of inter-communication which existed at present between the systems of the East London Waterworks and those of the other companies were: 1. By means of the River Lee. (This, however, is not strictly inter-communication. The arrangement has already been fully described in THE LANCET. The so-called inter-communication amounts simply to this—that the New River Company refrains from taking a certain amount of water which, therefore, is allowed to flow down the Lee to the intake of the East London Waterworks Company. The matter was made clear to the Commissioners by questions asked by Major-General Scott.) A new 24 in. main had been laid from the Grand Junction Company's district to the New River Head and a connexion to this main had been made by the West Middlesex Company. It was suggested that (1) some quantity of water might be supplied by these two companies to the New River and that a corresponding amount of water should be passed by the New River Company to the East London intake at the River Lee. 2. The Kent Company could supply water through two 4 in. mains which passed under the Thames in the Blackwall tunnel. 3. There was also a connexion with the mains of the Southwark and Vauxhall Company. A 20 in. main from Nunhead reservoir had been continued through the Tower subway (this subway belongs to the London Hydraulic Company and an easement has been granted to the East London Waterworks Company for a term of years). This main can convey 5,000,000 gallons of water daily, but is capable of carrying more. The East London Waterworks Company propose also by agreement with the Grand Junction Company to make additional connexion between their Thames main and the Campden-hill reservoir of the latter company. By this means it is hoped that they may obtain another 2,000,000 gallons daily.

The thirty-fifth sitting of the Royal Commissioners was held at the Guildhall, Westminster, on Tuesday, Nov. 15th. The Commissioners present were Lord Llandaff (the chairman), Sir John Dorington, M.P., Sir George Barclay Bruce, Mr. de Bock Porter, and Mr. Robert Lewis. The witnesses examined were Mr. BRYAN, engineer to the East London Waterworks Company, who was cross-examined by Mr. Pember on behalf of the water companies, by Mr. Balfour-Browne on behalf of the London County Council and by Lord Robert Cecil on behalf of the Hertfordshire County Council. The witness exhibited and explained a map showing the geological formation of the valley of the Lee. The other witnesses examined were Mr. Hervey, engineer to the West Middlesex Water Company; Mr. Hack, engineer to the Chelsea Company; Mr. Morris, engineer to the Kent Company; and Mr. Francis, one of the engineers to the New River Company. These gentlemen all gave evidence in favour of the Battersea scheme, which was more fully explained by Mr. Collins, an engineer to the New River Company.

Mr. PEMBER, on behalf of the metropolitan water companies, said that the Battersea scheme had the unanimous sanction of the companies.

Sir ALEXANDER BINNIE gave evidence to the effect that the scheme was unnecessary.

Mr. BALFOUR-BROWNE, on behalf of the London County Council, said it was more a matter for "argument" than for "evidence" and he wished to address the Commissioners. He suggested that the East London Waterworks Company's undertakings might now be bought cheaply because it was a defaulting company.

The Commissioners unanimously decided not to hear counsel on either side and at the conclusion of the sitting it was intimated that the Commissioners would meet privately on Monday next to consider the evidence which had been taken with regard to the inter-communication of the companies' mains.

The next public sitting of the Commissioners will be held on Tuesday, Nov. 22nd.

THE BATTLE OF THE CLUBS.

ANCIENT ABBEY LODGE, WALTHAM ABBEY, AND THEIR MEDICAL OFFICER.

ON Oct. 27th a meeting of the members of the Ancient Abbey Lodge of the Independent Order of Oddfellows, Waltham Abbey, was called for the purpose of presenting Dr. J. B. Henderson, who has for twenty-five years filled the office of lodge surgeon, with a testimonial to the worth in which they held his services. Hitherto the articles which we have inserted under the heading, "The Battle of the Clubs," have been unfortunately all of one tenour. It is, therefore, with all the more pleasure that we insert an account of the proceedings, which did the utmost credit to all concerned, and we must specially congratulate the chairman upon the

facts—for they are facts and not merely opinions—mentioned in his speech.

The chair was taken by the Rev. J. H. Stamp and there was a large attendance of members and friends. After the usual loyal and patriotic toasts the chairman said: We come now to the most important part of our programme. We are assembled in our lodge-room to-night to express our respect and esteem for Dr. Henderson and to show our appreciation of his valuable services as our lodge surgeon during the long period of twenty-five years past. We have good reasons for regarding medical men as the greatest benefactors of our race. They are summoned to our aid in the greatest emergencies of life, when we are stricken down by disease and brought face to face with death. They employ for our benefit their knowledge and experience, their skill and remedies, and above all they put forth their energies to heal us of the evils which flesh is heir to, and do all in their power to alleviate our sufferings. If the old proverb is at all reliable, "a friend in need is a friend indeed," then the medical man is one of our truest friends. Their noble profession is second only to that of the clergy, who are entrusted with the care and cure of immortal souls. Its very importance renders it an arduous and most anxious task. The medical man is supposed to be always on duty. His patients require his services at all hours of the day and night. He cannot make sure of any time to call his own, not even for necessary sleep or recreation. He is debarred from sharing the benefits of the eight hours' system, which are now enjoyed by many of our working men. The drain upon his time is continuous and severe and that upon his patience is equally trying and exhausting. He has many various tempers to bear with, but he is expected to dispense with his own temper both in the surgery and in the sick room. He must meet the most unreasonable patient with a smiling face and calm demeanour. The demands made on the time and patience of the clergy are trying enough, but they are few and small in comparison with those which fall to the lot of the physician. The good services of the medical man are essential to the well-being of society in general, but especially to that of institutions like our own, which have been established to give a helping hand to suffering brothers in the time of adversity and affliction. The most anxious part of the work of our society falls to the lot of the lodge surgeon, who is called upon to attend us in the time of sickness and danger. However much we may boast of our independence of the medical profession when we are in good health we are glad to acknowledge our dependence upon it and to claim its good services in time of illness. Dr. Henderson, the reverend chairman went on to say, spared neither time nor trouble in helping members when they were ill and all alike admired and esteemed his good qualities and faithful services. He would ask Dr. Henderson to accept the silver waiter which he handed him, for which 150 members had subscribed as a slight token of their esteem and respect.

The salver bore the following inscription: "Presented to J. B. Henderson, Esq., M.D., by the members of the Loyal Ancient Abbey Lodge, No. 2632, Waltham Abbey District Independent Order of Oddfellows, as a token of their esteem for his twenty-five years' valuable services as surgeon.—Oct. 27th, 1898." Dr. Henderson's health having been enthusiastically drunk he thanked the members very warmly for their kindness and the proceedings terminated with a concert. Our account of the proceedings is taken from the *Waltham Abbey Weekly Telegraph*.

ISOLATION HOSPITAL ACCOMMODATION BY COUNTY COUNCILS.

THE Isolation Hospitals Act, 1893, has not up to the present time proved in application altogether a success, in spite of the fact that it confers upon county councils very considerable powers as to isolation accommodation. The district councils are obviously not anxious to call into operation the provisions of the Act, and it cannot be said that county councils have, in the main, taken up a very strong position in the matter of enforcing the powers conferred upon them. The Act in question is certainly not an ideal one, but it is to be hoped that some means may be found to make it answer its purpose in a more satisfactory manner than has hitherto been the case. The Staffordshire County Council are evidently bent on gentle persuasion, coupled with substantial pecuniary assistance, rather than on compulsion, and if they are able by this means to bring about a proper system of isolation, ambulance provision, disinfection, and nursing in the county, all should be satisfied. Compulsion is an unpopular measure, more particularly when popularly elected councils are in question.

That there is, in very many cases at least, considerable advantage to be derived from joint hospitals goes at the present day almost without saying. There should be by this method economy in construction and economy in administration; but, above all, there should be efficiency in both, and a maintenance of that attractiveness which should be ever present in a properly managed fever hospital. There is, however, with joint hospital schemes, as with separate schemes, the financial difficulty—a difficulty which will always prove a stumbling-block where the ratepayers' representative is to the fore; and although to some extent this element is, with a growing popular appreciation of the monetary value of prevention, a diminishing one, any scheme which can offer financial assistance is bound to receive respectful consideration.

It is doubtless with a due appreciation of this aspect of the question that Dr. George Reid, the medical officer of health of Staffordshire, has recently presented a proposal to the council to contribute an annual sum of some £5600 out of the county funds towards the maintenance of isolation accommodation in the county. Dr. Reid estimates that in order to properly equip the whole administrative county some 640 beds are necessary, and deducting from this total 144 of the existing beds which can be regarded as satisfactory, there remain 496 to be provided for. The cost per bed, exclusive of site and furniture, is estimated at £230 and, allowing a certain sum for alterations of existing accommodation, it is thought that about £116,000 will be required. The annual establishment and maintenance charges, exclusive of interest on capital, is put at £16,800, and the county council has apparently agreed provisionally to contribute *annual grants* of about £5600 towards the establishment and maintenance expenses.

This is a liberal bid towards bringing the local authorities into line on the isolation question, and although the bestowal of the grant would in each case be dependent upon satisfactory provision, the local authorities will probably take the proposal into their very serious consideration, and other county councils will watch the development of it with interest and curiosity. Doubtless a comprehensive proposal such as this will not be carried out without some friction, but local authorities should remember that they can appeal to the Local Government Board against any grouping of districts which they may consider to be unfair, and this fact alone should give them confidence to discuss the matter freely. Too much time is often lost in schemes of this nature by what may be called the sulking of some local authorities.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN thirty-three of the largest English towns 6910 births and 3706 deaths were registered during the week ending Nov. 12th. The annual rate of mortality in these towns, which had declined in the nine preceding weeks from 24·6 to 17·0 per 1000, rose again last week to 17·2. In London the rate was 16·3 per 1000, while it averaged 17·9 in the thirty-two provincial towns. The lowest death-rates in these towns were 11·3 in Croydon, 11·6 in Sunderland, 11·9 in Derby, and 12·4 in Burnley; the highest rates were 21·5 in Norwich and in Manchester, 22·5 in Swansea and in Liverpool, 22·6 in Gateshead, and 23·3 in Preston. The 3706 deaths in these towns included 411 which were referred to the principal zymotic diseases, against 456 and 420 in the two preceding weeks; of these, 96 resulted from "fever" (principally enteric), 85 from diarrhœa, 77 from diphtheria, 71 from measles, 42 from scarlet fever, and 40 from whooping-cough. No fatal case of any of these diseases occurred last week in Croydon; in the other towns the lowest zymotic death-rates were recorded in Cardiff, Leicester, Birkenhead, and Huddersfield, and the highest rates in Leeds, Newcastle-upon-Tyne, Sheffield, Nottingham, and Swansea. The greatest mortality from measles occurred in

Portsmouth, Plymouth, Nottingham, Blackburn, and Sunderland; from scarlet fever in Derby; from whooping-cough in Swansea, Preston, and Halifax; and from "fever" in Norwich, Blackburn, Leeds, Sheffield, and Hull. The 77 deaths from diphtheria included 31 in London, 9 in Swansea, 8 in Leeds, 6 in Sheffield, 4 in West Ham, and 3 in Newcastle-upon-Tyne. No fatal case of small-pox was registered last week in any of the thirty-three large towns, and no small-pox patients were under treatment in any of the Metropolitan Asylums Hospitals. The number of scarlet fever patients in these hospitals and in the London Fever Hospital on Saturday last, Nov. 12th, was 3188, against 2915, 3031, and 3092 at the end of the three preceding weeks; 340 new cases were admitted during the week, against 381, 336, and 318 in the three preceding weeks. The deaths referred to diseases of the respiratory organs in London, which had been 263 and 237 in the two preceding weeks, rose again to 248 last week, but were 157 below the corrected average. The causes of 52, or 1·4 per cent., of the deaths in the thirty-three towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Bristol, Nottingham, Bradford, Hull, Newcastle-upon-Tyne, and in fifteen other smaller towns; the largest proportions of uncertified deaths were registered in Wolverhampton, Birmingham, Liverpool, Manchester and Sheffield.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 20·0 and 18·9 per 1000 in the two preceding weeks, rose again to 19·4 during the week ending Nov. 12th, and exceeded by 2·2 per 1000 the mean rate during the same period in the thirty-three large English towns. The rates in the eight Scotch towns ranged from 14·5 in Greenock and 15·3 in Perth to 19·9 in Glasgow and 23·7 in Dundee. The 584 deaths in these towns included 28 which were referred to diarrhœa, 16 to "fever," 11 to measles, 11 to diphtheria, 11 to whooping-cough, and 9 to scarlet fever. In all, 86 deaths resulted from these principal zymotic diseases, against 73 and 80 in the two preceding weeks. These 86 deaths were equal to an annual rate of 2·9 per 1000, which was 1·0 above the mean rate last week from the same diseases in the thirty-three large English towns. The deaths referred to different forms of "fever," which had been 9, 15, and 16 in the three preceding weeks, declined to 16 last week, of which 12 occurred in Glasgow and 4 in Paisley. The 11 fatal cases of measles showed a further increase upon recent weekly numbers, and included 4 in Glasgow and 4 in Aberdeen. The deaths from diphtheria, which had increased from 6 to 10 in the three preceding weeks, further rose to 11 last week, of which 5 occurred in Aberdeen and 3 in Glasgow. The 11 fatal cases of whooping-cough exceeded by 4 the number in the preceding week, and included 7 in Glasgow. The deaths from scarlet fever, which had been 4 and 6 in the two preceding weeks, further rose to 9 last week, of which 5 occurred in Glasgow, 2 in Edinburgh, and 2 in Dundee. The deaths referred to diseases of the respiratory organs in these towns, which had been 119 and 128 in the two preceding weeks, were 129 last week, and were 32 below the number in the corresponding period of last year. The causes of 27, or nearly 5 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 26·4 and 24·8 per 1000 in the two preceding weeks, rose again to 30·0 during the week ending Nov. 12th. During the past four weeks the death-rate in the city has averaged 26·8 per 1000, the rate during the same period being 16·5 in London and 18·3 in Edinburgh. The 201 deaths registered in Dublin during the week under notice showed an increase of 35 upon the number in the preceding week, and included 22 which were referred to the principal zymotic diseases, against 13 and 18 in the two preceding weeks; of these, 8 resulted from diarrhœa, 5 from "fever," 4 from whooping-cough, 3 from scarlet fever, 2 from diphtheria, and not one either from small-pox or measles. These 22 deaths were equal to an annual rate of 3·3 per 1000, the zymotic death-rate during the same period being 1·4 both in London and in Edinburgh. The deaths referred to different forms of "fever," which had been 4 and 3 in each of the two preceding weeks, rose again to 5 last week. The 4 fatal cases of whooping-cough and the 3 deaths from scarlet fever showed a further increase upon those recorded in recent weeks. The fatal cases of diphtheria, which had been 3 in each of the two preceding weeks, declined to 2 last week. The 201 deaths in Dublin last week included 60 of infants under one year of age, and 45 of persons aged upwards of sixty years; the deaths both of infants and of elderly persons exceeded those recorded in the preceding week. Eleven inquest cases and 9 deaths from violence were registered; and 64, or nearly a third, of the deaths occurred in public institutions. The causes of 11, or more than 5 per cent., of the deaths in the city last week were not certified.

VITAL STATISTICS OF LONDON DURING OCTOBER, 1898.

IN the accompanying table will be found summarised complete statistics relating to sickness and mortality during October in each of the forty-three sanitary areas of London. With regard to the notified cases of infectious diseases in the metropolis, it appears that the number of persons reported to be suffering from one or other of the nine diseases specified in the table was equal to 11·5 per 1000 of the population, estimated at 4,504,766 persons in the middle of this year. In the three preceding months the rates had been 8·1, 6·5, and 8·9 per 1000 respectively. Among the various sanitary areas the rates were considerably below the average in Kensington, St. George Hanover-square, St. James Westminster, Marylebone, St. Giles, St. Martin-in-the-Fields, and Strand; while they showed the largest excess in Fulham, Hackney, Holborn, Clerkenwell, St. Luke, Newington, Bermondsey, Battersea, and Plumstead. Not one case of small-pox was notified in London during October, the numbers in the three preceding months having been 2, 5, and 2 respectively; and no small-pox patients were under treatment last month in any of the Metropolitan Asylum Hospitals. The prevalence of scarlet fever in London showed a considerable further increase upon that recorded in recent months; among the various sanitary areas this disease showed the highest proportional prevalence in Fulham, Islington, Hackney, Holborn, Clerkenwell, St. Luke, Newington, Bermondsey, and Plumstead. The Metropolitan Asylum Hospitals contained 2977 scarlet fever patients at the end of October, against 2255, 2207, and 2425 at the end of the three preceding months; the weekly admissions averaged 350, against 242, 202, and 270 in the three preceding months. The prevalence of diphtheria in London during October showed an increase upon that recorded in the two preceding months; this disease was proportionally most prevalent in Fulham, Holborn, St. Luke, Newington, Bermondsey, Battersea, Greenwich, and Lee sanitary areas. There were 1182 diphtheria patients under treatment in the Metropolitan Asylum Hospitals at the end of October, against 1014, 865, and 1024 at the end of the three preceding months; the weekly admissions averaged 172, against 146, 107, and 163 in the three preceding months. The prevalence of enteric fever in London showed a marked further increase upon that recorded in recent months; among the various sanitary areas this disease showed the highest proportional prevalence in Westminster, Hackney, St. Martin-in-the-Fields, Limehouse, Poplar, and Greenwich. The Metropolitan Asylum Hospitals contained 223 enteric fever patients at the end of October, against 87, 118, and 155 at the end of the three preceding months; the weekly admissions averaged 41, against 16, 21, and 28 in the three preceding months. Erysipelas was proportionally most prevalent in Holborn, St. Luke, Bethnal Green, Whitechapel, and Mile End Old Town sanitary areas. The 22 cases of puerperal fever notified in London during October exceeded the number in any recent month, and included 5 in Kensington sanitary area.

The mortality statistics in the table relate to the deaths of persons actually belonging to the various sanitary areas of the metropolis, the deaths occurring in the institutions of London having been distributed among the various sanitary areas in which the patients had previously resided. During the four weeks ending Saturday, Oct. 29th, the deaths of 5983 persons belonging to London were registered, equal to an annual rate of 17·3 per 1000, against 14·7, 20·7, and 21·0 in the three preceding months. The lowest death-rates in the various sanitary areas were 7·3 in St. Martin-in-the-Fields,

ANALYSIS OF SICKNESS AND MORTALITY STATISTICS IN LONDON DURING OCTOBER, 1898.

(Specially compiled for THE LANCET.)

SANITARY AREAS.	Estimated population in the middle of 1898.	NOTIFIED CASES OF INFECTIOUS DISEASE.											DEATHS FROM PRINCIPAL INFECTIOUS DISEASES.										Deaths from all causes.	Death-rate per 1000 living.	Deaths of infants under one year to 1000 births.
		Small-pox.	Scarlet fever.	Diphtheria.*	Typhus fever.	Enteric fever.	Other continued fevers.	Puerperal fever.	Erysipelas.	Cholera.	Total.	Annual rate per 1000 persons living.	Small-pox.	Measles.	Scarlet fever.	Diphtheria.†	Whooping-cough.	Typhus fever.	Enteric fever.	Other continued fevers.	Diarrhœa.	Total.	Annual rate per 1000 persons living.			
LONDON...	4,504,766	—	1815	1118	1	438	5	22	592	—	3991	11·5	1	47	38	150	58	—	66	2	315	677	2·0	5983	17·3	158
West Districts.																										
Paddington	127,480	—	27	29	—	12	—	1	5	—	74	7·6	—	—	—	10	4	—	—	1	5	20	2·0	142	14·5	163
Kensington	172,174	—	33	21	—	9	1	5	12	—	81	6·1	—	1	—	1	—	—	1	—	8	11	0·8	193	14·6	176
Hammersmith	107,370	—	49	20	—	10	1	—	10	—	90	10·9	—	—	—	2	2	—	2	—	6	12	1·5	117	14·2	179
Fulham	125,275	—	100	49	—	12	—	1	11	—	173	18·0	—	—	3	6	2	—	2	—	4	17	1·8	148	15·4	132
Chelsea	96,713	—	36	11	—	6	—	1	6	—	62	8·4	—	—	1	2	1	—	1	—	6	11	1·5	119	16·0	190
St. George Hanover-square	80,608	—	16	9	—	4	—	—	4	—	33	5·3	1	—	—	2	1	—	1	—	1	6	1·0	77	12·5	81
Westminster	52,574	—	10	6	—	9	—	—	8	—	33	8·2	—	—	—	1	4	—	1	—	3	9	2·2	75	18·6	167
St. James Westminster	22,200	—	5	2	—	—	—	—	—	—	7	4·1	—	—	—	—	—	—	—	—	3	3	1·8	30	17·6	243
North Districts.																										
Marylebone	140,483	—	24	14	—	14	—	—	21	—	73	6·8	—	1	3	1	2	—	2	—	3	12	1·1	185	17·2	100
Hampstead	78,755	—	28	8	—	5	—	—	5	—	46	7·6	—	—	1	—	—	—	3	—	—	4	0·7	78	12·9	65
St. Pancras	243,416	—	114	43	—	33	—	1	49	—	240	12·9	—	2	1	6	1	—	5	—	24	39	1·5	348	18·6	119
Islington	344,616	—	177	36	—	34	—	—	32	—	279	10·6	—	—	—	—	—	—	—	—	—	—	—	33	12·4	78
Stoke Newington	34,660	—	11	3	—	3	—	—	4	—	21	7·9	—	3	2	8	1	—	6	—	9	29	1·7	241	14·3	139
Hackney	219,630	—	125	77	—	45	—	1	43	—	291	17·3	—	—	—	—	—	—	—	—	—	2	0·7	55	19·1	129
Central Districts.																										
St. Giles	37,519	—	6	3	—	5	—	—	5	—	19	6·6	—	—	—	1	1	—	—	—	—	7	7·3	—	—	—
St. Martin-in-the-Fields	12,424	—	1	1	—	3	—	—	1	—	6	6·3	—	—	—	—	—	—	1	—	3	4	2·2	40	22·4	158
Strand	23,284	—	3	—	—	1	—	—	3	—	7	3·9	—	—	—	—	—	—	—	—	4	6	2·6	59	25·6	308
Holborn	30,066	—	16	13	—	2	—	—	8	—	39	16·9	—	1	—	1	—	—	—	—	14	21	4·1	108	21·3	253
Clerkenwell	66,120	—	62	11	—	7	—	—	6	—	86	17·0	—	2	3	1	1	—	—	—	14	21	4·1	108	21·3	253
St. Luke	41,076	—	36	18	—	—	—	—	11	—	65	20·6	—	4	3	1	—	—	—	—	7	15	4·8	88	27·9	139
City of London	29,088	—	9	3	—	1	—	—	4	—	17	7·6	—	—	—	—	—	—	—	—	—	—	—	31	13·9	100
East Districts.																										
Shoreditch	121,465	—	41	20	—	13	—	—	20	—	94	10·1	—	4	2	2	—	—	2	—	10	20	2·1	194	20·8	214
Bethnal Green	129,027	—	33	33	—	17	1	—	34	—	118	11·9	—	8	1	4	1	—	2	—	8	24	2·4	219	22·1	204
Whitechapel	80,559	—	20	15	—	5	—	1	27	—	68	11·0	—	1	—	—	—	—	1	—	6	8	1·3	120	19·4	130
St. George-in-the-East	48,241	—	7	6	—	6	—	1	11	—	31	8·4	—	—	—	2	1	—	1	—	7	11	3·0	77	20·8	185
Limehouse	58,661	—	10	14	—	9	1	—	8	—	42	9·3	—	2	1	6	2	—	1	1	5	18	4·0	92	20·4	133
Mile End Old Town	112,528	—	34	25	—	6	—	—	28	—	93	10·8	—	9	1	7	1	—	2	—	10	30	3·5	180	20·9	172
Poplar	170,220	—	51	43	—	27	—	—	22	—	143	11·0	—	1	—	7	—	—	3	—	19	30	2·3	265	20·3	170
South Districts.																										
St. Saviour Southwark	24,562	—	9	6	—	2	—	—	4	—	21	11·1	—	4	—	—	—	—	—	—	1	5	2·7	36	19·1	119
St. George Southwark	60,466	—	25	18	1	9	—	2	11	—	66	14·2	—	1	—	3	2	—	1	—	9	16	3·5	123	26·5	175
Newington	123,183	—	78	45	—	15	—	—	18	—	156	16·5	—	—	2	5	2	—	—	—	17	26	2·8	196	20·7	190
St. Olave Southwark	11,288	—	5	1	—	—	—	—	—	—	6	6·9	—	—	—	—	1	—	—	—	—	1	1·2	13	15·0	79
Bermondsey	85,738	—	75	49	—	7	—	—	8	—	139	21·1	—	—	1	7	4	—	—	—	10	22	3·3	153	23·3	203
Rotherhithe	40,849	—	12	4	—	2	—	—	8	—	26	8·3	—	—	—	1	—	—	—	—	1	2	0·6	51	16·3	105
Lambeth	304,073	—	89	99	—	22	1	2	36	—	249	10·7	—	1	—	10	8	—	4	—	19	42	1·8	371	15·9	144
Battersea	171,921	—	90	105	—	10	—	2	22	—	229	17·4	—	—	2	18	2	—	2	—	10	34	2·6	227	17·2	153
Wandsworth	202,526	—	48	60	—	14	—	2	13	—	137	8·8	—	1	1	7	1	—	3	—	12	25	1·6	218	14·0	121
Camberwell	261,189	—	122	64	—	11	—	—	32	—	229	11·4	—	1	2	8	2	—	1	—	21	35	1·7	319	15·9	160
Greenwich	180,441	—	70	67	—	28	—	1	26	—	192	13·9	—	—	2	3	4	—	7	—	13	29	2·1	277	20·0	188
Lewisham (excluding Penge)	88,562	—	23	27	—	4	—	—	2	—	56	8·2	—	—	—	4	1	—	—	—	12	17	2·5	96	14·1	157
Woolwich...	41,478	—	23	7	—	2	—	—	1	—	33	10·4	—	—	—	2	—	—	1	—	3	6	1·9	71	22·3	137
Lee	39,717	—	8	23	—	2	—	1	5	—	39	12·8	—	—	—	2	2	—	1	—	2	7	2·3	42	13·8	171
Plumstead	62,531	—	54	9	—	6	—	—	8	—	77	16·1	—	—	—	—	1	—	1	—	3	5	1·0	82	17·1	204
Port of London	—	—	—	1	—	4	—	—	—	—	5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

* Including 27 cases of membranous croup.

† Including deaths from membranous croup.

12·4 in Stoke Newington, 12·5 in St. George Hanover-square, 12·9 in Hampstead, 13·8 in Lee, 13·9 in London City, and 14·0 in Wandsworth; the highest rates were 22·1 in Bethnal-green, 22·3 in Woolwich, 22·4 in Strand, 23·3 in Bermondsey, 25·6 in Holborn, 26·5 in St. George Southwark, and 27·9 in St. Luke. During the four weeks of October 677 deaths were referred to the principal zymotic diseases in London; of these, 1 resulted from small-pox, 47 from measles, 38 from scarlet fever, 150 from diphtheria, 58 from whooping-cough, 66 from enteric fever, 2 from ill-defined forms of continued fever, and 315 from diarrhœa. These 677 deaths were equal to an annual rate of 2·0 per 1000; no deaths from any of these diseases were recorded last month in Stoke Newington, St. Martin-in-the-Fields, or London City; in the other sanitary areas the lowest zymotic death-rates were recorded in Kensington, St. George Hanover-square, Hampstead, St. Giles, Rotherhithe, and Plumstead; and the highest rates in Clerkenwell, St. Luke, St. George-in-the-East, Limehouse, Mile End Old Town, St. George Southwark, and Bermondsey. The fatal case of small-pox belonged to St. George Hanover-square sanitary area and was the first death referred to this disease in the metropolis since August, 1897. The 47 deaths referred to measles were 75 below the corrected average number in the corresponding periods of the ten preceding years; this disease showed the highest proportional fatality in St. Luke, Bethnal Green, Mile End Old Town, and St. Saviour Southwark sanitary areas. The 38 fatal cases of scarlet fever were less than half the corrected average number; among the various sanitary areas this disease was proportionally most fatal in Clerkenwell and St. Luke. The 150 deaths from diphtheria were 58 below the corrected average number; this disease showed the highest proportional fatality in Paddington, Fulham, Limehouse, Mile End Old Town, Poplar, St. George Southwark, Bermondsey, Battersea, and Lewisham sanitary areas. The 58 fatal cases of whooping-cough were 23 below the corrected average number; among the various sanitary areas this disease was proportionally most fatal in Westminster, Bermondsey, and Lee. The 66 deaths referred to enteric fever were slightly below the corrected average number; this disease showed the highest proportional fatality in Hampstead and Greenwich sanitary areas. The 677 fatal cases of diarrhœa were 138 above the corrected average number; among the various sanitary areas this disease showed the highest proportional fatality in Clerkenwell, St. Luke, St. George-in-the-East, St. George Southwark, and Newington. In conclusion, it may be stated that the aggregate mortality in London last month from these principal zymotic diseases was 10 per cent. below the average.

Infant mortality in London during October, measured by the proportion of deaths of children under one year of age to registered births, was equal to 158 per 1000. Among the various sanitary areas the lowest rates of infant mortality were recorded in Marylebone, Hampstead, Stoke Newington, St. Martin-in-the-fields, London City, and St. Olave Southwark; and the highest rates in St. James Westminster, Holborn, Clerkenwell, Shoreditch, Bethnal Green, Bermondsey, and Plumstead.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are notified:—Surgeons: John Boyan, W. H. Daw, Cyril Shepherd, Hugh L. Norris, Adrian A. Forrester, James M. G. Swainson, John Stoddart, James A. Forrest, Warren G. Westcott, Francis J. McKenna, Fairman R. Mann, William W. Keir, Edward C. Sawdy, Percy H. Bannister, Richard S. Osborne, Mervyn W. Falkner, Edward O. B. Carberry, John K. Raymond, and Henry W. M. Rees, to the *Victory*, for Haslar Hospital.

ROYAL ARMY MEDICAL CORPS.

Captain Tate and Lieutenant Penny are held in readiness for service in West Africa. Major Woods is posted to the Dublin District for duty pending embarkation for Egypt. Lieutenant-Colonel Somerville-Large is transferred from the Dublin District to the charge of the hospital for soldiers' wives and children at Portsmouth. Lieutenant O'Gorman is placed under orders for service in South Africa. Captain Henry Vincent Dillon retires from the Service receiving a gratuity.

INDIA AND THE INDIAN MEDICAL SERVICES.

Major W. Dugdale, R.A.M.C., is transferred from Bombay to the Nagpore District. Captain R. H. Castor, Civil Surgeon, Akyab, has been granted furlough for two years from the date on which he may avail himself of it. Lieutenant-Colonel Joshua Duke, Medical Officer, Bhopawar Political Agency, is appointed to succeed Colonel Deane as Residency Surgeon, Kashmir. Lieutenant-Colonels Charlton, R.A.M.C., and P. F. O'Connor will be the Principal Medical Officers of the Northern and Southern Divisions respectively at the cavalry camp of exercise in January. Lieutenant-Colonel E. H. Fenn, C.S.I., R.A.M.C., doing duty at Peshawur, is appointed Surgeon on the Staff of Lord Curzon of Kedleston, and will join on the Governor-General's arrival in India.

VOLUNTEER CORPS.

Artillery: 1st Banff: William Donald to be Surgeon-Lieutenant. 1st Cumberland: Surgeon-Captain J. Little to be Surgeon-Major. 2nd Middlesex: Surgeon-Lieutenant A. B. Lyon, from the 1st Banff Volunteer Artillery, to be Surgeon-Lieutenant. *Rifle:* 3rd Lanarkshire: Surgeon-Lieutenant-Colonel J. Dunlop. 1st Volunteer Battalion the Worcestershire Regiment: Surgeon-Lieutenant J. Robinson to be Surgeon-Captain. 1st Volunteer Battalion the East Lancashire Regiment: Surgeon-Lieutenant W. Moir resigns his commission. 1st (City of Dundee) Volunteer Battalion the Black Watch (Royal Highlanders): Surgeon-Captain J. M. Whyte resigns his commission. 21st Middlesex (the Finsbury): Surgeon-Lieutenant E. Jones to be Surgeon Captain. 4th (Donside Highland) Volunteer Battalion the Gordon Highlanders: Surgeon-Lieutenant J. O. Wilson to be Surgeon-Captain. 6th Volunteer Battalion the Gordon Highlanders: Surgeon-Lieutenant-Colonel R. S. Turner resigns his commission; also is permitted to retain his rank, and to continue to wear the uniform of the battalion on his retirement.

THE SOUDAN GAZETTE.

We print below some of the awards for service during the recent campaign in Egypt. It will be noticed that we depart somewhat from our usual custom of recording in this column the names of members of the medical profession alone and include the Army Veterinary Department, the rank and file of the Royal Army Medical Corps, and nurses:—To be Ordinary Members of the Military Division of the Third Class, or Companions of the Most Honourable Order of the the Bath: Surgeon-General William Taylor, A.M.S., and Colonel William Henry Macnamara, R.A.M.C. To be Members of the Distinguished Service Order: Lieutenant-Colonel George Arthur Hughes, R.A.M.C.; Major Edmond Munkhouse Wilson, C.M.G., R.A.M.C.; Major Hugh Broderick Mathias, R.A.M.C.; and Captain Charles Stuart Spong. *Brevet:* Lieutenant-Colonel T. J. Gallwey, C.B., Principal Medical Officer, Egyptian Army, to be Colonel; Major G. W. Robinson to be Lieutenant-Colonel; Captain R. H. Penton, D.S.O., employed with the Egyptian Army, to be Major; Captain H. E. H. Smith, employed with the Egyptian Army, to be Major; Lieutenant E. W. Bliss to be Captain; and Veterinary-Lieutenant T. E. W. Lewis, employed with the Egyptian Army, to be Veterinary Captain. The Medal for Distinguished Conduct in the Field has been granted to the under-mentioned: Royal Army Medical Corps: First Class Staff-Sergeant Hoist, Sergeant F. Crooke, Sergeant G. A. Benson, Sergeant Scrase, Lance-Sergeant A. P. Mears, and Private A. Davidson. The under-mentioned officers are granted the next higher rates of pay of their rank: Lieutenant-Colonel A. T. Sloggett, Royal Army Medical Corps, and Veterinary-Captain G. R. Griffiith, D.S.O., Army Veterinary Department. The Queen has conferred the Decoration of the Royal Red Cross upon the under-mentioned nurses in recognition of their services in tending the sick and wounded: Miss Sarah Emily Webb, Army Nursing Service; Miss Amy Florence Grist, Army Nursing Service; and Miss Elizabeth Geddes, National Society for Aid to Sick and Wounded in War.

THE ROYAL NAVAL EXAMINATIONS.

The under-mentioned gentlemen, who competed on Oct. 31st and following days at the Examination Hall,

Victoria Embankment, for appointment as surgeons in the Royal Navy, have been granted commissions:—

Names.	Marks.	Names.	Marks.
J. Boyan	2656	F. R. Mann	2152
W. H. Daw	2582	W. W. Keir, M.B.	2101
C. Shepherd	2488	E. C. Sawdy	2096
H. L. Norris	2435	P. H. Bannister, M.B. ...	2054
A. A. Forrester, M.B. ...	2408	R. S. Osborne	2031
J. M. G. Swainson	2388	M. W. Falkner	1967
J. Stoddart, M.B.	2334	E. O. B. Carberry, M.B.	1962
J. A. Forrest, M.B. ...	2323	J. K. Raymond, M.B. ...	1948
W. G. Westcott	2252	H. W. M. Rees	1847
F. J. McKenna, M.B. ...	2172	H. R. Gardner, M.B. ...	1836

Gratuities to British Troops in the Soudan.

A gratuity is to be issued to the British troops engaged in the recent operations in the Soudan. Every officer, warrant officer, non-commissioned officer, and other soldier of such troops who was employed south of Wady Halfa will be entitled to participate in the grant. The gratuity will also be issued in special cases upon the recommendation of the general officer commanding in Egypt to certain officers and men who were employed at Wady Halfa and Assouan. The unit of the scale will be £3 in the case of those who took part in both the battles of the Atbara and of Khartoum and £1 10*s.* in all other cases.

The Medical Department of the German Navy.

According to the project that was passed by the Reichstag last year the German Navy, which, without reckoning torpedo boats, training ships, special service vessels, and gunboats, consisted in 1897 of 12 ships of the line, 8 armoured coast protectors, and 33 cruisers, should in 1904 be constituted as follows: 19 ships of the line, 8 armoured coast protectors, 12 cruisers of the first class, and 30 cruisers of the second class, being an increase of 16 fighting units, or 30 per cent. This augmentation will entail the addition of 8839 officers and men to the strength, which will thus be increased from 18,898 to 27,737 of all ranks, an increment equal to 46·7 per cent. The scheme for the Medical Department provides for an additional *personnel* equal to rather more than 49 per cent., the total number of medical officers being increased from 122 to 182. The relative strength in the various grades is shown below:—

	1897.	1904.
Surgeon-General	1	1
Station surgeons	2	2
Staff surgeons...	17	33
Surgeons	45	67
Assistant surgeons	57	79
Total	122	182

Lord Kitchener and the Grenadier Guards.

Lord Kitchener of Khartoum recently distributed the Soudan medals, which had been struck by order of the Egyptian Government, to the Grenadier Guards at Wellington Barracks, where between 500 and 600 men were paraded for the purpose, but some 80 men were absent owing to their being sick in hospital. His lordship therefore subsequently proceeded to the Guards' Military Hospital at Rochester-row and there distributed the medals to the non-commissioned officers and men on the sick-list—86 in all we believe—to several of whom the General made a few congratulatory remarks.

Pasteur Institute for India.

Some idea of the need for the establishment of a Pasteur Institute in India may be formed from the fact that since July 1st no less than nineteen British soldiers, the *Times of India* states, have been sent to Paris for treatment at the estimated cost of about 1000 rupees per head. We hope to see the day when there will be an institute, furnished with a bacteriological laboratory and all appliances for the scientific investigation of the diseases of India, in each of the three Presidencies. Some institution of this kind might well form part of a sanitary or public health department for India.

Deaths in the Services.

Brigade-Surgeon Frederick Pennington, (retired), A.M.S., at Lugano on Nov. 4th in his 69th year. He joined the army in 1858, became Surgeon in 1873, Surgeon-Major in 1873, and retired with the honorary rank of Brigade-Surgeon in 1885. He served in the Indian Mutiny, 1858–59 (medal), in the Ashanti War, 1873–74 (medal), and in the Egyptian expedition, 1882 (medal and Khedive's star).

THE EPIDEMIC OF TYPHOID FEVER AT BELFAST.

SECOND YEAR.

(From our Special Commissioner.)

The number of cases of typhoid fever notified last year as occurring in the town of Belfast amounted to 3269. This was a severe lesson; but, as a new town council had been elected and many of the successful candidates were pledged to a programme of energetic sanitary measures, it was only natural to hope that these effective reforms would at once be realised. Far be it from me to say that nothing has been done, but whatever was attempted has certainly proved ineffectual, for there has been another and equally severe epidemic. During the four weeks ending July 16th of the present year 226 cases of typhoid fever were notified. In the following four weeks, ending on August 20th, 784 cases were notified. The climax was reached during the ensuing four weeks when 1121 cases were notified. After this the epidemic showed signs of abatement though there were still many cases—namely, 636 notifications from Sept. 18th to Oct. 15th last. During the two weeks following this last date there were 125 and 98 more notifications, but it is now stated that the epidemic seems to be drawing to an end. In any case we have here the record of 2990 cases occurring in 18 weeks and this cannot be considered an improvement on the 3269 cases notified during the 52 weeks of last year. Yet, and in spite of this repeated and appalling lesson, entailing such widespread suffering and the loss of so many lives, strenuous efforts are still made to prevent the enforcement of those sanitary reforms which are obviously necessary. During the epidemic last year I described at length the sanitary defects of the town of Belfast. Apart from the main drainage system, which is defective, I pointed out that the more urgent grievance was the presence of numerous and foul privies. In his report for the year 1897 which was issued this week the superintendent medical officer of health, Dr. Henry Whitaker, states that he examined the condition of 2211 houses where cases of typhoid fever had occurred. Of these, 352 had privies with back passages and 750 had privies without back passages; therefore, to remove the excreta from these latter houses it had to be carried through the ground-floor rooms of the house. This means a back bedroom, scullery, wash-house or pantry, and the front room, which is generally the parlour, the living room, and the place where all the cooking is done. The contents of these privies is simply shovelled out into buckets. Some of it is often spilt inside the house as it is carried through to reach the street. In thus stirring up this foul matter, abominable odours arise. The gases liberated permeate the entire house, are absorbed by milk and whatever other articles of food may be about, and these may also receive particles of dust, &c., that have been in contact with the dejecta removed. It is not surprising that such houses are more liable to typhoid fever than those which drain into water-closets. Dr. Whitaker calculates that whilst typhoid fever has occurred in 2·7 per cent. of the houses having water-closets it has occurred in 5·5 per cent. of the houses having privies, and we have seen that among the privy houses by far the greater number of cases were found to be in the houses which have no back passages.

The figures which Dr. Whitaker gives concerning the injurious effect of the privy system are fully confirmed by the calculations of the medical officers of health of other towns. For instance, Dr. Charles Porter, medical officer of health of Stockport, shows that during the last five years the incidence of typhoid fever in the water-closet houses in that town was equal to 1·21 per cent., while that in privy-pit houses was equal to 3·39 per cent.[1] Nevertheless, and in spite of these most conclusive facts, on Nov. 2nd the town council held its quarterly meeting, and the discussion was prolonged for three days. One of the chief subjects debated was a Bill to be introduced into Parliament in order to obtain money and powers to carry out various improvements. Before the opening of the business proceedings a deputation waited on

[1] See The Lancet, Oct. 29th, 1898.

the council headed by Mr. J. B. Dunlop, probably the largest owner of workmen's cottages and also of a better class of property in Belfast. In the name of the deputation he objected to the increase of taxation which the proposed Bill would entail. As against the compulsory application of the water-closet system he urged that the system of "dry closets" was the proper one, as was shown by the fact that he had hundreds of houses so supplied and not a case of typhoid fever had occurred in any of them. He did not wish to threaten, but he forcibly pointed out that the Bill would meet with strenuous opposition. In reply the Lord Mayor said that some members of the Corporation were in favour of the "dry closet system," but that the majority of the Corporation thought the system was one impossible of being properly worked.

What seems to me to be misleading in the above is the use of the term "dry closet." The danger, on the contrary, rests in the fact that these closets are wet, reeking with liquid and concentrated sewage that soaks into the subsoil, that oozes through the brick walls, and in some cases even penetrates into the dwelling portion of the houses. Anyone taking up a text-book on sanitation or reading the opinion of some well-known authority on the subject would find that a great deal has been said in favour of dry closets such as Moule's patent earth-closets. But the secret of such merit depends on the absolute dryness of these closets and the frequent, almost daily, removal of their contents. Dry closets, however, are impracticable in a town. They require an immense amount of attention. The constant removal of the metallic pails, the ample provision of carefully prepared, dried, and broken-up earth, cinders, or ash would all cost very much more than water-closets. Where in country districts it is not possible to provide sewers to drain water-closets the dry-earth system is an excellent way out of the difficulty, but it is quite impracticable in large towns. At Manchester it has been applied for many years at a great expense and with the display of much ingenuity and care; still Manchester is giving up the system and introducing water-closets in its stead. But the dry-pail system of Manchester cannot be compared for a moment with the plague-promoting wet privies of Belfast. It will be seen that the use of the term "dry closet" is most misleading. It would be quite unjustifiable to utilise the well-known arguments that have been adduced in various countries in favour of dry closets to defend the wet privy-pits of Belfast. Under these circumstances it is regrettable that the term "dry closet" has come into general use in Belfast, for in this town at least it is altogether a misnomer.

Fortunately, it is generally recognised that the privies, whether qualified as dry or wet, must be done away with. It is also admitted that passages must be provided behind all the houses, even though through the introduction of water-closets these passages would serve to remove the contents of the dustbins only, and not as at present fæcal matter. But these measures still meet with strenuous resistance even within the town council. The opponents of sanitary improvement, it is true, have almost ceased to argue the question, but they punctually attend committee meetings of the corporation and record a silent though solid vote against sanitary reforms. Councillor Dr. O'Connell did not hesitate to denounce this proceeding at the public general meeting of the town council. This arose on the question of testing drains. Out of eight aldermen six had voted against such a measure and the two other aldermen abstained from voting. Dr. O'Connell protested that there were too many aldermen on the Public Health or Improvement Committees. Councillor Liddell also complained that proceedings were not instituted to enforce the making of back passages and the introduction of water-closets. He urged that the town council should set a good example by prosecuting some of its own members. Councillor Magee pointed out that the Public Health Committee had resolved to institute proceedings against a house where the privy was in a very bad condition and where there was no back passage, and they recommended the landlord to put in a water-closet. On the other hand, the Improvement Committee had recently approved plans for the erection of new houses where there would be neither water-closet nor back passages. Thus one committee prosecutes for what the other committee sanctions. By some piece of good fortune this particular instance has not slipped by unperceived and the owner has now undertaken to provide a back passage and water-closets.

With regard to domestic drainage a resolution had been passed to the effect that all water-closet drains in the town should be tested. Thereupon it had been argued that this would necessitate the employment of an extra staff of thirty-nine sanitary inspectors. This argument was well calculated to frighten the timorous ratepayer. Another objection was raised, not this time for the purpose of obstruction, but rather with the view to defend trade union interests. The labour members of the council urged that the inspectors appointed to test the drains should be fully-qualified plumbers. They seemed to think that men who had no particular trade could be secured for a salary of 25*s.* a week, whereas a plumber would have to be paid a much higher wage. A good deal was said about the incompetence of cheap inspectors. These objections seem outside the mark. A plumber would be very useful inside a house, but outside the house, and especially where brick drains had been laid, a bricklayer would be better qualified. The real fact is, however, that what is wanted is neither a bricklayer nor a plumber but a much larger and a more efficient staff of carefully-trained and fully-qualified inspectors of nuisances. For the moment the examination of house-drains and plumbers' work may take up most of the time of such inspectors; but there is other sort of work to be done of a totally different nature for which a man who is only a plumber would be absolutely incompetent. It was ultimately decided that seven extra sanitary inspectors with assistants should be appointed subject to the approval of the Local Government Board. Considerable vigilance will, however, have to be exercised to see that thoroughly qualified men are appointed to these posts and that they are paid a proper salary. Here the labour representatives on the town council will be acting in harmony with their principles and programme if they see that "blackleg" sanitary inspectors, who are incompetent but willing to accept less than the usual salary, are not selected in preference to properly qualified and properly paid inspectors. A plumber is not an inspector of nuisances and has not received the proper training. Last year the old municipal boundary, which comprised 3806 acres, was extended to the surrounding suburban districts, so that it now consists of 16,503 acres. The added portions only contain 23,000 inhabitants, though the medical officer of health considers this figure is not correct, and that 30,000 would be nearer the truth. However this may be, as the number of inhabitants within the old boundary is now set down at 310,000 it will be seen that the population in the vast and newly added districts must be very much scattered. The work of sanitary inspection among these people will consequently take much time, and this is another reason for considerably increasing the sanitary staff.

(To be continued.)

BIRKENHEAD AND DISTRICT NURSES' FUND: VISIT OF H.R.H. PRINCESS CHRISTIAN OF SCHLESWIG-HOLSTEIN.—H.R.H. Princess Christian was present at a meeting held at Birkenhead in connexion with the Birkenhead and District Nurses' Fund on Nov. 3rd. The object of the meeting was to bring before the public the work done by the Birkenhead and District Nursing Society. In the autumn of last year the society became affiliated with the Victoria Jubilee Nursing Institute and in February last the institute sent down two nurses who began local work on Feb. 10th. In July two other nurses were added in spite of the small amount of subscriptions which had come in, but as the society had received a promise of £300 from the Jubilee Institute the committee considered their action to be justifiable. The rules of the Birkenhead Society are practically similar to those of the Queen's Institute and the work is carried on upon unsectarian lines. Up to the present time 213 cases have been attended with a total of 6448 visits. During the month of October 1163 visits were paid. The subscriptions collected this year have so far amounted to £147 13*s.* 6*d.* and the donations to £26 2*s.* 6*d.*, the total amount having been £435 5*s.* It is satisfactory to find that after paying expenses there is a balance in hand of £233 4*s.* 5*d.* Her Royal Highness was accorded a hearty vote of thanks for the interest which she had taken in the society and which it is hoped will act as a stimulus in enlisting the sympathy of the public in aid of its charitable objects.

Obituary.

WILLIAM CAMPBELL MACLEAN, C.B., LL.D., M.D. EDIN.,

SURGEON-GENERAL, I.M.S.; LATE PROFESSOR OF MEDICINE IN THE ARMY MEDICAL SCHOOL AND HONORARY SURGEON TO THE QUEEN.

WE regret to announce the death of Surgeon-General Maclean, which took place on Nov. 10th, at Sidmouth, Devonshire, whither he had gone hoping to be benefited by the mildness of the climate.

William Campbell Maclean was born on Nov. 29th, 1811, at Blackburn House, in Ayr, and was of Highland descent through both his paternal and maternal ancestors. His father was the representative of the family known as the Macleans of Boreray (the first branch of the Macleans of Ardgour in Argyllshire) and had early in this century purchased the estate of Drimnin, in Morvern, on the Sound of Mull, from Macdonald of Glenaladale. His mother was the youngest daughter of Donald Macleod of Bernera, in the county of Inverness. The subject of this notice was their tenth child and youngest son, and was named after his father's bosom friend, William Campbell of Ainsay, Colonel of the 78th Highlanders, who in 1811, the year of the future Surgeon-General's birth, fell at the head of his regiment at the capture of Java.

About the year 1818 the family moved to Edinburgh and took up their residence at Deanbank House, near Stockbridge. In the year 1824 young Maclean was sent to Dollar Academy in Clackmannanshire and afterwards to Edinburgh Academy, in 1829 he commenced the study of medicine in Edinburgh University, in 1832 he became a Licentiate of the Royal College of Surgeons of Edinburgh, and in 1833 he graduated as M.D. at the University.

In the autumn of 1833 his uncle, Sir John Macleod, informed him that Sir John Keene (afterwards Lord Keene of Gaznee) had been appointed Commander-in-Chief of the Bombay Army and that he was posted surgeon of the ship *Upton Castle*, in which his Excellency was to sail for that presidency and in which he embarked in November of that year. After a second voyage to the East, made in 1836 on board the *Marquis Camden*, he returned to England, and spent the winter of 1836–37 in Paris visiting the hospitals, pursuing the study of anatomy and natural history, and attending the lectures of Andral on general medicine and the clinique of Chomel, who was then considered the most distinguished clinical teacher in France. Dr. Maclean's commission of Assistant Surgeon in the Madras Army is dated April 15th, 1838. Proceeding to India on board the *Orwell* he landed at Madras and entered on his probationer course in the General Hospital under Dr. Mortimer, the senior physician to that institution. After two months' duty he received orders to embark in a transport for Masulipatam, there to ship a native infantry regiment for Moulmein in Burma, and to return with the relieved regiment, the 13th, to Madras.

WILLIAM CAMPBELL MACLEAN, C.B., LL.D., M.D. EDIN., SURGEON-GENERAL, I.M.S.

On arrival at Madras his regiment was ordered to the station of Palaveram, near St. Thomas's Mount, where Dr. Maclean remained in medical charge until relieved by a senior medical officer just arrived from England. After leaving the 13th he was ordered to proceed to Secunderabad in the Deccan to do duty with the 55th regiment, and as there was no combatant officer available for the duty some young officers recently arrived in India were placed under his authority, under a special order by the Commander-in-Chief, until they should complete the march to that station. The 55th was then under the command of Colonel Schoede, a Peninsular veteran, Dr. Shanks being the surgeon of the regiment.

Early in 1839 a wing of the 55th regiment was ordered to Madras and Dr. Maclean was placed in medical charge of it, but on arrival at the presidency town he was posted to the charge of the Queen's Garrison Hospital by Dr. John Murray, Inspector-General of Queen's troops. After holding this appointment at Madras for three months it became known that, consequently on the high-handed proceedings of Commissioner Lin in destroying opium the property of British merchants, and in interference with British trade, contrary to treaty engagements, an expedition was preparing against China, and Madras was to furnish the artillery and engineers. Dr. Maclean volunteered, his services were accepted and he sailed on the *Rustomjee Cowasjee* on April 14th, 1840, with the two companies of artillery, under Colonel Peter Montgomerie, C.B., to which he was attached for duty. He served in China until the end of the war and was mentioned in despatches. He was present at the first capture of Chusan; at all the operations in the Canton River and heights above the city; at the bombardment and capture of Amoy; at the second capture of Chusan; at the battle of Chinhai, the occupation of Ningpo, and the repulse of the enemy from that place; at the battle of Chapu; at the heights of Segoan; at the bombardment of Woosung, and the other operations on the Yang-tzi-Kiang River; and at the battle of Chin-Kiang-Foo. In these operations he was for the most part attached to the 18th Royal Irish Regiment, and was responsible for all the medical duties of the regiment in the field during this arduous service, the surgeon of the regiment having been laid aside by ill-health. During these operations he was five times employed with the advanced guard, and on three occasions landed with attacking troops under fire. At the battle of Chapu he assisted in carrying out Colonel Tomlinson, of the 18th Royal Irish, from the passage in the building which was defended by a brave body of Tartar soldiers, where he had been mortally wounded. He died in Dr. Maclean's arms within a few minutes. At the capture of Chin-Kiang-Foo Captain Collinson fell into Dr. Maclean's arms as he dropped dead from a ball in his heart, and a few minutes afterwards, when dressing a wounded officer of the same regiment (the 18th), Dr. Maclean was nearly killed by a ball which, striking the parapet a few inches above his head, covered him and the wounded officer with the débris of the broken wall. Taking his final

leave of his gallant friends of the 18th Royal Irish on Nov. 1st, 1843, he returned to India in medical charge of the C troop of Madras Horse Artillery and served for six months at Arcot in medical charge of a wing of the 1st Madras Fusiliers.

In 1844, his services in China having been brought to the notice of the Governor-General of India by the Commander-in-Chief, Lord Gough, Dr. Maclean proceeded to Bengal and joined the camp of the Governor-General with the Army of Exercise in Central India. It was at this time that the medical service was in danger of losing one of its brightest ornaments, for on one occasion Dr. Maclean was summoned to the office of his lordship's private secretary and offered an appointment in the Mysore Commission, by order of the Governor-General, in very flattering terms. Captain (afterwards Sir) Henry Durand pressed the offer on the ground that it opened up a new career, with no inconsiderable opportunities of advancement and distinction. This offer, however, Dr. Maclean declined as it involved turning his back on a profession which he loved and, as it were, the throwing away of the years spent in its study. On his decision being known the Governor-General conferred on him the appointment of residency surgeon at the Court of Hyderabad, in the Deccan, the best appointment a man of his rank could hold in his own department of the public service. At Hyderabad he served under Major-General Stewart Fraser, Sir John Low, Mr. Bushby of the Bengal Civil Service, and Major Davidson, until the year 1855, when he vacated the appointment on promotion. Not long after joining at Hyderabad the Resident obtained the sanction of the Nizam's Government and of the Governor-General to establish a medical school at the residency with a view to educate a body of native doctors through the medium of their own language. Dr. Maclean was appointed the first superintendent of this school, an office involving much labour. This was the first vernacular school of medicine in India; the pupils were all Mahomedans. The great majority turned out remarkably well. Some entered the civil service of H.H. the Nizam and were employed in their professional capacity in various parts of his dominions, others settled as civil practitioners in the great city of Hyderabad where they attained to wealth and consideration, and, as has been repeatedly acknowledged by the Nizam's Minister, Sir Salar Jung Bahadur, have been of inestimable service to all ranks of the people. The school is still in vigorous existence. In connexion with this appointment Dr. Maclean on three occasions received the approbation of the Court of Directors of the Honourable East India Company and the thanks of the Government of India. When the time came for him to vacate his appointment on promotion Lord Dalhousie acknowledged his services in the most handsome manner in a letter to the Resident and requested him to nominate another officer as his successor. Dr. Maclean sent up three names and was by return of post requested to name one of the three. He named Dr. George Smith, who was appointed and more than justified his nomination.

In the year 1855 Dr. Maclean returned to England on medical certificate after seventeen years' continuous service, but again sailed for India early in 1857. He then served for nearly a year as garrison surgeon at Visagapatam, but towards the close of that year he was appointed medical officer of the third district of Madras, including the charge of the Military Asylum. He discharged the duties of this large division until November, 1860, when he finally embarked for England. While holding this post he was appointed by Lord Harris, the Governor of Madras, to be a Fellow of the University of Madras with a seat on the council of the governing body of the College.

When Mr. Sidney Herbert, afterwards Lord Herbert of Lea, then Secretary for War, founded the Army Medical School at the close of the Crimean war a medical officer competent to teach tropical diseases was required. The India Office was applied to, the records were searched, and the reports sent to the Court of Directors by the Government of India, based on those of the Residents at Hyderabad, led to Dr. Maclean's nomination. When appointed as Professor of Medicine in the Army Medical School he was commissioned to the home service without prejudice to the officers of that service as a deputy-inspector-general and subsequently as a surgeon-general. After a probationary trial of two years he was permanently appointed and occupied the chair for twenty-five years, first at Fort Pitt, Chatham, and afterwards at the Royal Victoria Hospital, Netley. In due course, in 1871, he was made a Companion of the Most Honourable Order of the Bath, civil division, and an Honorary Surgeon to the Queen. The University of Glasgow also conferred on him (*honoris causâ*) the degree of Doctor of Laws.

Dr. Maclean's career as a writer was a long and varied one. He communicated to the medical press at home and in India a great variety of articles on the medical and surgical questions of the day and on questions affecting the constitution, status, and work of the public medical services, many of which have appeared from time to time in our columns. He contributed nearly all the articles on tropical medicine to the great work of Dr. Russell Reynolds, the "System of Medicine," and the articles on tropical fevers to the successive editions of Sir Richard Quain's "Dictionary of Medicine." He was also the author of "Diseases of Tropical Climates," 1886, a work which was long the text-book used in the Army Medical School and the foremost authority on these complaints. Among his other contributions to medical literature were the following papers:—The Influence of the Knapsack and Accoutrements on the Health of the Infantry Soldier, *Journal of the Royal United Service Institution*, vol. viii., 1865; Sanitary Precautions to be observed in the Moving and Camping of Troops in Tropical Regions, ibid., 1874; Prevalance of Enteric Fever among Young Soldiers in India, International Medical Congress, 1881; Remarks on the Cases of Enteric Fever admitted from Egypt into the Medical Division R.V. Hospital, Army Medical Report, vol. xxiii., 1882; and the Fever of Malta and Gibraltar, *Practitioner*, vol. xxxiv., 1885. As a writer we cannot help feeling that his career of usefulness might have been even more extended had not his desire to publish the lectures delivered in the Army Medical School from time to time, chiefly for the benefit of the officers of the services scattered over the tropics, been interfered with by the Secretary of State for War. It will be remembered that the lecture which he published in THE LANCET on the very disgraceful conduct of affairs during the epidemic of yellow fever at Bermuda in the year 1863 caused a great storm to burst about his head, and that although the War Minister, after inspecting the lecture, could find no fault with it, yet he was pleased to direct that in future all lectures delivered at the school should be submitted to him before publication—an order which acted as a permanent check on Dr. Maclean's intended policy, for, as he writes in his charming work, "Memories of a Long Life," "I am so constituted that I cannot publish under a censorship, however mild, judicious, or even generous."

Hitherto we have sketched, as far as our space will permit, a record of Dr. Maclean's life-work—a record of a man's labour ably carried out, of the engrossing work of an able physician; but what of the man himself? From the foundation of the Army Medical School to the day he delivered his last lecture no less than 1476 officers received instruction from him, and we know we are right in saying that to one and all of the survivors the report of his death has carried a sense of personal loss. We publish a reproduction of the picture by Mr. W. R Symonds now adorning the walls of the ante-room at the Officers' Mess, Netley, which was subscribed for by the officers of the Sister Services. It is a faithful portrait of Dr. Maclean's truly noble countenance and frame. In stature he was tall, with a commanding presence, and a fine head well poised on broad shoulders. His manner had a charm which at once set those around him at their ease, and all those associated with him were quickly convinced of the absolute sincerity of all he uttered. Frankness, we should say, was his great characteristic—his voice, the grip of his hand, the glance of his eye, all made one feel that he was a trusty and trusting friend; and, withal, he was strong, mentally, physically, morally—a man upon whom many others leant and gathered strength from the association. As a lecturer and public speaker he had few equals, and as he spoke so he wrote. To the circle to whom he gave copies of his latest literary effort, his "Memories of a Long Life," what pleasure has been conveyed, for as they read the details of a life well spent they can almost fancy they are listening to his well-loved tones. In his last lecture delivered at the Army Medical School, in which he passed in review what had been done for the army by the Netley teaching, in speaking of his own special work he said: "Unless treatment had to a large extent kept pace with sanitation the results we contemplate with so much satisfaction could not have been obtained. If this is so—and the fact appears to me undeniable—we may claim for this school that the money spent on it has not been spent in vain, and that the wisdom of those who founded it has been justified."

All through his life Dr. Maclean was a keen sportsman,

After his second return from India he never missed an annual visit to Hythe Hall every 12th of August, always remaining there until obliged to return to his professional duties on Oct. 1st. This routine never varied until the death of his friend Mr. Hugh Maclean in 1885. For the last years of his life Dr. Maclean was a great sufferer from phosphatic stone and enlargement of the prostate, and we believe underwent as many as eight crushing operations performed by Mr. Reginald Harrison.

Happy in his public career Dr. Maclean was no less so in his private life. Returning to Hyderabad on Jan. 30th, 1845, soon after the death of his well-loved brother, Roderick Norman Maclean, who had served as aide-de-camp to Lord Ellenborough when Governor-General of India, he there met Louisa, daughter of John Maclean of Branley, in Inverness, a niece of his brother-in-law, General Duncan Macpherson. An engagement soon followed and he was married on Sept. 9th, 1845, from the house of his friend Dr. Alexander Walker of the Bombay Army. The issue of the marriage was three sons and two daughters—two of the sons are now planters in Ceylon, while one son is a member of the Mexican Legation; of his two daughters, the elder married Mr. John Macpherson of the Inner Temple, the younger is the wife of Colonel Stevens of the Royal Artillery. Mrs. Maclean survives him, and to her all those who knew her husband are extending the sympathy which words are inadequate to express.

ALEXANDER SIMPSON, M.A. ST. AND., M.D., B.SC. EDIN.

DR. ALEXANDER SIMPSON, medical officer of health of the city of Perth, died at his residence there on Oct. 23rd in consequence of injuries sustained by falling downstairs on Oct. 21st. Dr. Simpson took the degree of M.A. at St. Andrews University in 1871, studied medicine at Edinburgh, and graduated in the university there as M.B. and C.M. in 1878. After spending a short time as assistant to an uncle who was in practice in London he settled in Perth and was appointed medical officer of health of the city and police surgeon on the resignation of these offices by Dr. Buist about seventeen years ago. In 1885 he took the degree of M.D. and in 1892 that of Bachelor of Science in Public Health. Dr. Simpson was deeply interested in the work of the St. Andrew's Ambulance Association, conducting large classes to which the usual course of instruction in first aid was given. He has left a widow and four young children.

EDWARD DEANE MACDERMOT, M.A., M.D. T.C.D.

DR. EDWARD DEANE MACDERMOT, who was one of the oldest medical practitioners of Bath, died at his residence, The Circus, on Nov. 9th, after an illness of only two weeks' duration. Dr. MacDermot, who was a member of an old Irish family, received his education at Trinity College, Dublin, and graduated M.A. and M.D. in 1848. Shortly afterwards he went to Bath as an assistant to a medical man at Bathwick, and subsequently started practice in Brook-street, removing from there to The Circus. The deceased was highly esteemed and popular in Bath and possessed a considerable amount of Irish wit and humour. Dr. MacDermot was twice married, his second wife being Lady Wade, the widow of Sir Claude Wade, a distinguished diplomatist and soldier, by whom he leaves a son. The funeral took place at Ardcarne near Boyle, the family burial place in the west of Ireland.

ALLEGATIONS AGAINST A MEDICAL OFFICER.—At the meeting of the Newport Board of Guardians held on Nov. 5th the report was read of Mr. Bircham, of the Local Government Board, who has recently held an inquiry in connexion with the allegations against the medical officer of the workhouse (Dr. T. G. Macormack). This completely exonerated that gentleman from the charges of neglecting the patients at the infirmary, Mr. Bircham remarking that he found the patients were exceedingly well treated by Dr. Macormack and the nursing staff. The report added that there was considerable friction between the infirmary branch of the workhouse and the administrative portion, which it was hoped would have the special attention of the guardians.

Correspondence.

"Audi alteram partem."

"OBSERVATIONS ON AN INFECTIOUS DISEASE IN LASCARS HAVING CLOSE RELATIONS WITH VARIOLA AND VARICELLA."

To the Editors of THE LANCET.

SIRS,—I have read with much interest the paper bearing the above title by Dr. Thomson and Dr. Brownlee of Glasgow in your issue of Oct. 22nd last. Therein they refer at some length to a paper of mine read before the Epidemiological Society of London in 1866, on "Epidemic Varioloid Varicella in Jamaica," in which I described an outbreak of a peculiar form of disease which neither before nor since have I met with. I gave it the name I did for want of a better, and it was not until I read the paper of Dr. Thomson and Dr. Brownlee that I appreciated the possibility that I had described a disease which had hitherto not been classified. As pointed out by them, the two epidemics in all their important characteristics are nearly identical, and any slight differences may be accounted for by the fact that I had at least 115 cases and they only 16, the larger number of cases affording a greater variety in the clinical manifestations of the disease. After the lapse of thirty-five years I fear I cannot depend upon my memory to afford information on the points whereon Dr. Thomson and Dr. Brownlee indicate that my account is deficient.

To clear up two questions involving uncertainty referred to by Dr. Thomson and Dr. Brownlee, I may, however, state that my epidemic was certainly not varicella modified by *racial* differences. I attended persons of all colours with it—not only blacks, but whites, and many of the mixed races. Nor was it due to *climatic* differences. In thirty-four years' practice in the tropics I have observed many epidemics of both variola and varicella, the result of my experience being that these diseases present precisely the same symptoms and are as clear, distinct, and easy of diagnosis as in England, the only difference being that in the coloured races the rosy areola surrounding the eruption is not so well marked. Neither, in my opinion, was the disease variola, of which I have seen several epidemics. Many months after this anomalous epidemic one of genuine small-pox broke out and I attended a large number of cases, none of which presented the slightest approximation to the one that I described in my paper. Appended to my paper in the Transactions of the Epidemiological Society of London is a note by my partner, the late Dr. Bowerbank—an extremely able physician of long experience—who saw a large number of these cases with me. It is as follows:—

"March 10th, 1863.—We are at present suffering from a severe influenza and also from a most peculiar epidemic of varicella, I suppose. To me it looks much more like varioloid or modified small-pox; most of the vesicles suppurate and in some cases are distinctly umbilicated and are sometimes confluent. I never saw varicella like it before."

"Jan. 25th, 1864.—We have had among us a peculiar varioloid affection, something like purulent chicken-pox. Many of the pustules, however, exactly resemble true variola. The disease spread through the penitentiary and reformatory schools, 40 or 50 having it at one time. Since then it has appeared from time to time in a home and gone through the family, but it did not appear to me to take hold of a district."

For further information regarding this epidemic I would refer to my original paper. But I may here state that it occurred among old and young, vaccinated as well as unvaccinated, and also in some who had had severe attacks and were deeply pitted by antecedent small-pox. The constitutional symptoms were extremely mild and none of the patients died. It would be interesting to learn whether practitioners in the tropics or among those recently arrived therefrom have met with similar cases or whether possibly they have been noticed in this country. I certainly consider that it is highly desirable that this subject should receive further consideration, as thereby some anomalous circumstances regarding the relations between small-pox and vaccination might be cleared up. At present I feel

strongly inclined to adopt the suggestion of Dr. Thomson and Dr. Brownlee that "the disease is neither variola nor varicella but is probably a third disease of a specific character presenting resemblances to both, while at the same time it possesses certain features which entitle it to be placed by itself as a specific entity, and having the same relation to both the diseases mentioned as exists between the more familiar forms of small-pox and chicken-pox."

I am, Sirs, yours faithfully,

IBETT ANDERSON, M.D. Edin.

Eastbourne, Nov. 14th, 1898.

"VITALITY."

To the Editors of THE LANCET.

SIRS,—I regret that I am unable to accompany some of your correspondents in the tremendous journeys they seem to contemplate, nor do I think it would be profitable just now to discuss what happened many millions of years ago. Although unquestionably our sun is "with surpassing glory crowned," there is no evidence of his having created, constructed, or built anything, nor can I believe that the sun with all his mighty energy can form a muscle, give origin to a weed, or build a wigwam. The doctrines favoured by my old friend Dr. Hooper and by Dr. Rowe concerning the origin of life in the remote past may be discussed when the general nature of *existing life* has been more fully considered.

I have long ago given my reasons for my belief in *vital power*, and have ventured to appeal to members of the profession to consider the conclusions arrived at as well as my microscopical observations extending over many years upon which they are founded. The main question applies to life *as it is*, as we know it here—life always followed by death—the nature of living matter, from that which exists in the lowest and simplest of living organisms, to that concerned in the formation and action of the so-called "cell" of our brain; and I beg my friends to freely criticise my contentions; to expose my errors or explain away my facts, in order that I may, perhaps in a modified way, further extend the account of my investigations in hope of being able to help in establishing conclusions of great interest and consequence, with reference to one of the most important scientific problems ever presented for solution—*the nature of vital power now* in active operation throughout the whole living world in which we find ourselves the highest of all living forms.

Now, one most important characteristic of all life is *growth*—the growth known *only in connexion with life*. It has been said, and it is widely believed, that growth also occurs in non-living matter and that the process I hold to be vital only, is but a form of aggregation of material particles. This doctrine I can only meet with a direct negative. The formation and increase of every tissue—every structure of every living organism that I have been able to study—does not take place according to any such process, and is absolutely dependent upon purely vital phenomena in each case. The facts of microscopical investigations extending over a long period have convinced me that there is no "community of nature" between *growth* as it occurs in everything that lives, and *inorganic growth*, as has long been taught by Mr. Herbert Spencer, and is re-asserted in his new edition just published and dated August, 1898. I venture to maintain that living and non-living matter belong to *absolutely different categories;* and that there is no analogy whatever between aggregation and accretion—and *growth* as it occurs in all living. The statements in the first paragraph of the chapter on Growth, § 43, p. 135, seem to me to be contrary to evidence, opposed to reason, and incompatible with *broad facts of living nature*, as well as with the results of minute investigation.

"Crystals grow" (Herbert Spencer). If the solution containing the crystallisable substance passed through the *outer part of the crystal* and crystallised within: *if* the new matter somehow reached the central part of the crystal: *if* the outer layers of the crystal consisted of the matter *first* deposited from the solution: *if* the crystal increased in size by deposition *from within* so that the superficial layers were pushed outwards as the crystals increased in dimensions—in short, *if* the deposition of crystallisable matter from its solution occurred in a direction *the very opposite of that* in which it does occur—the existence of some slight analogy between *growth* as it takes place in the "cell" of a living organism and the so-called *growth* of the crystal might be conjecturally assumed.

If the "fungus-like accumulation of carbon" upon the wick of an unsnuffed candle was increased by the last-formed portion of the carbon being somehow carried inwards through the outer layer towards the wick, so as to push out the layer first deposited, it might be said that the order of deposition was in the same direction and situation as occurs in the so-called cell-wall as in certain cases it is thickened.

If the deposition of sediment occurred beneath the stratum just deposited instead of *upon* it, the process might be roughly compared with *living growth*. *If* "celestial bodies" increased by deposition *from within*, and the last matter added reached the nucleus or central part, their increase might by some authorities be compared with growth "in its widest acceptation" (Herbert Spencer).

Evolution surely is applicable to vital phenomena only, aggregation to non-living matter only—evolution *from* already existing centres, movement *from* a spot, movement *towards* a spot—centrifugal, centripetal—towards, away from—to, from. If this be so, aggregation and evolution are *opposed* and cannot involve the same particles of matter; and the genesis of bodies "celestial" can hardly proceed like the "genesis" of living organisms terrestrial. Aggregation of lifeless particles seems therefore to belong to a category far away from that to which living growth belongs. *Aggregation* is absolutely different in essential nature from *growth*, and the two processes are absolutely opposed and cannot possibly affect the same particles at the same time. *Evolution must be restricted to the living world* or it can have no meaning.

So far, then, I feel compelled to maintain that between life and non-life the difference is *absolute*, whether we consider the life of the lowest fungi growing and multiplying in teeming millions at this moment upon every dead moist leaf, or the life of the so-called cells of the wonderful grey matter of our own cerebral convolutions.

I am, Sirs, yours faithfully,

Nov. 7th, 1898. LIONEL S. BEALE.

"A CASE OF DEATH UNDER CHLOROFORM, WITH REMARKS."

To the Editors of THE LANCET.

SIRS,—In sending some comments on the article under the above heading by Mr. Alexander Wilson, published in THE LANCET of July 30th, 1898, I must first apologise for the delay, which has been to a great extent unavoidable.

Firstly, I would say that the considerable fulness of detail given in the description of the case is a great improvement on the manner in which his former cases, published in THE LANCET of Sept. 11th, 1897, were described. This may or may not be due to my criticisms on them published in THE LANCET of Nov. 13th, 1897, but whether that is so or not the result is so far satisfactory. I say "so far," because in the case under criticism the description of the essential part of the case is second-hand. Mr. Alexander Wilson ought certainly to have asked the qualified medical man who was personally superintending the administration of the anæsthetic to give a first-hand account of the essential part of the case. It would have been easy to do so and it is absolutely necessary that the medical profession should have first-hand evidence of such essentials. With regard to the remarks on the case let me insist on one point. Surely any departure from normal anæsthesia is a sign of danger in chloroform administration and normal anæsthesia is characterised among other things by regular breathing with slight pallor.

It seems to me that the pith of Mr. Wilson's remarks lies in this sentence: "The practical point is that in these cases the first warning of danger is exhibited by a change in the circulation." Now, one has only to turn to the description of this case to see that, so far from this being so, the first departure from normal anæsthesia, and therefore the first sign of danger, was irregularity of respiration. It is so long since the case was published that I venture to quote the first items of clinical information given. They are as follows: "During the stage of excitement there was some struggling *with holding of the breath*, during which the lint was withdrawn from the face. Suddenly the patient began to breathe deeply and he became pale, the pupils were widely dilated, and no pulse could be felt." (The italics are mine.) Can anything be more evident than that the first departure from normal was a respiratory irregularity and that the syncopal symptoms

were subsequent to it? What, then, of these remarks by Mr. Alexander Wilson? "The symptoms in these cases indicate that the primary lesion is a paralysis of the circulation." "The first warning of danger is a change in the circulation." "The practical point is that in these cases the first warning of danger is exhibited by a change in the circulation." "It cannot be too much insisted on that as the primary lesion is in the circulation to the circulation must we look for the first signs of danger and to the improvement of the circulation must treatment be directed." They are all entirely pointless. Since the first sign of danger was in this case abnormal respiration it is scarcely worth while to pay any more attention to the remarks based on the opposite supposition.

With regard to treatment, the indications are plain: maintain absolutely regular respiration from beginning to end of the anæsthesia; do not early in the anæsthesia give the vapour in such concentration that the patient holds his breath; remember that a strength of vapour which one man will breathe with ease will so irritate the laryngeal mucous membrane of another that there will follow spasmodic adduction of his vocal cords and holding of the breath; and remember, too, that during all this time the chloroform imprisoned in his lungs is being absorbed with perhaps fatal effect. Later, too, be equally careful to maintain regular breathing, remembering that irregular breathing may mean either too much or too little chloroform (a point to be determined by other signs), and that either condition is one of considerable danger. With regard to the giving of ammonia vapour bear in mind that it equally with chloroform vapour may produce laryngeal spasm in the first stage of chloroform anæsthesia and plunge a patient from a condition of comparative safety into one of imminent danger. Seeing that Mr. Alexander Wilson has published several chloroform fatalities in his own practice, and that he makes a special point of the danger from syncope due to chloroform poisoning, and therefore presumably takes special pains to note the state of the circulation during his chloroform administration, would it not be worth his while in the future to direct his attention to merely maintaining regular respiration? The result, should he do so, can scarcely fail to be satisfactory to all concerned.

I am, Sirs, yours faithfully,

CLAYTON A. LANE, M.D. Lond.,
Lieutenant, I.M.S.

Mussooree, Oct. 19th, 1898.

"A DEFENCE OF THE MIDWIFE."

To the Editors of THE LANCET.

SIRS,—In your annotation under the above heading in THE LANCET of Nov. 12th, pp. 1283–84, you say: "No Midwives Bill which we have yet seen contains any provision for ensuring that in every serious case a lying-in woman, however poor, shall have the benefit of qualified medical attendance, and without such provision no Midwives Bill should pass." In my Sick and Obstetric Nurses Bill, already reviewed in your columns, special provision is made for this very thing and by Clause 3: "It shall be unlawful for any person (male or female) to assume the title of midwife, or to practise as such, or to act as a sick or obstetric nurse for gain or otherwise, without the supervision and control of a fully-qualified and registered medical practitioner. Any person infringing this provision and neglecting or refusing to send for medical or surgical aid at or immediately after a confinement shall be liable to a fine of £10 or imprisonment for a month in default." Surely this is strong enough and the *modus operandi* is worked out in the schedules to the Bill. The Bill is printed in full in the *Medical Magazine* for March, 1898.

I am, Sirs, yours faithfully,

ALEXANDER McCOOK WEIR.

East Sheen, Nov. 14th, 1898.

"THE ETHICS OF CLUB PRACTICE."

To the Editors of THE LANCET.

SIRS,—I have read with interest and fellow-sympathy the letter *re* the above in THE LANCET of Oct. 15th. Leaving the possible legal obligation to pay the bill out of the question, should "Beta" pay it he will find that the smoothness and friendly feeling which have characterised his relations with the club members for thirty years will speedily disappear and that it will only be the thin edge of the wedge and the signal for other malcontents to be on the war-path, and that he will very soon be pestered with similar bills from quite unexpected quarters on account of some fancied neglect, and if he makes the dangerous precedent he will find a large hole made in the receipts from his clubs. So long as clubs exist so long will like cases crop up. There are always so many malcontents who are never satisfied, and very often it is those who get the most attendance who are the first to turn round and accuse you of neglect and will frequently tell you quite straight that because your money is sure you just do as you like. Then the medical practitioner, on the other hand, is called out over and over again, often at night and at unreasonable hours, to cases that are quite trivial, and if he dares to demur he is told that "he will be reported" or "he *must* come," or "he will be made to come or someone else will be called, and he will be made to pay the bill."

One knows when a message comes to attend a private case that it is necessary, but to attend a club case out of hours is in a great many cases unnecessary. The members pay so much and they must have their pound of flesh. Who of club doctors has not experienced the big strong man come to the surgery and after untying several large handkerchiefs hold out a slightly abraded finger, or slight crush, or small cut from a pocket-knife, &c., &c.? Who has not seen his surgery filled on a fine summer evening chiefly by women, who have just been passing the surgery during a walk and just dropped in to see what the medical man says about some very trivial matter, not only trivial in the doctor's estimation, but one which would be trivial also in a private patient's eyes? The private patient would not waste a fee on such a small matter, but the club patient has nothing more to pay no matter how often he consults his surgeon, so he abuses his privileges. All this is very degrading, but will exist so long as clubs exist—and I suppose that will be until the end of time. If one could get club members to understand, as you point out in your leading article in THE LANCET of Oct. 22nd, that the medical man must himself, and he only, be the judge as to the urgency of the cases and the order in which they are to be seen things would go more smoothly. I think the great majority of club doctors will agree that I have in nowise overstated, in fact have understated, the annoyances attached to club practice. Clubs are pernicious for both sides—they take from the doctor his dearest possession, his independence, and very often put the club member in a false position.

I have never seen a club yet, and that may seem a sweeping statement, which did not possess its malcontents—some fewer, some more—and it is from them that bills for attendance emanate. "Beta" should strenuously resist paying. The matter will be brought before a meeting of the committee and he will probably find that it will decide in his favour, though most likely, so as to mollify the malcontent, with a rider or suggestion, if not actually a warning, to be more particular in future. "Beta" is singularly fortunate in having been thirty years without such an experience.

I do not wish to seem at all to class the whole of the members of clubs as so inconsiderate—quite the reverse. The great majority are grateful for your attention and will thank you for coming during the night or at inconvenient hours and will express regret at having to trouble you, and it is a pleasure to attend such people, for who does not appreciate gratitude? The mere monetary consideration is not everything. I hope I have not trespassed too much on your space.

I am, Sirs, yours faithfully,

CONSTANT READER.

Oct. 29th, 1898.

THE FEE FOR THE REGISTRATION OF DIPLOMAS IN PUBLIC HEALTH.

To the Editors of THE LANCET.

SIRS,—In the "Abstract of the Principal Laws Affecting the Medical Profession" contained in a recent edition of the Medical Directory I read under "Registration" that "a registered practitioner who obtains a recognised diploma for proficiency in sanitary science, public health, or state medicine after special examination in the United Kingdom is entitled to have such diploma entered in the Register," and further that "any registered person who obtains any ..... of the qualifications mentioned above other than the qualification in respect of which he was registered is entitled to have such ..... additional qualifications inserted in the Register ..... on payment of a fee of 5*s*." Recently

I wished to register a diploma in public health and went to the Registrar's office expecting to have to pay 5*s.* as usual, but to my dismay I was informed that the fee was £2.

Will you kindly enlighten me as to any reason there may be for thus taxing one particular branch of medical knowledge? On the face of it to me it certainly seems unfair.

I am, Sirs, yours faithfully,

Nov. 14th, 1898. D.P.H.

*** We sympathise with our correspondent in having to pay a fee of £2 for the registration of his diploma in public health instead of 5*s.* Five shillings used to be the fee in accordance with the rule that additional qualifications might be registered for that sum. But the fee was increased in 1893.[1] There is some reason, too, for the larger fee. The diploma is of a different kind from others and confers altogether a new qualification. Also in 1893 inspections of the examinations were instituted and these, of course, cost money, which it was thought, perhaps, should be provided for in this way.—ED. L.

A POINT UNDER THE PUBLIC HEALTH ACT.

To the Editors of THE LANCET.

SIRS,—Will you kindly help me as to the following? Section 124 of the Public Health Act, 1875, says "Any person who is suffering from a dangerous infectious disorder and is without proper lodging or *accommodation*, &c.," "may be removed, &c." Does the word "accommodation" in that section justify the removal of a child or person who cannot be sufficiently isolated (say for diphtheria) from the rest of the family (the patient being one of the same family)? Perhaps you will kindly refer me to some cases on the point.

I am, Sirs, yours faithfully,

Nov. 15th, 1898. M.O.H.

*** This question has received various interpretations by different magistrates, but it has never been finally decided on appeal. Some have held that since the section is one of a group under the heading "Provisions against Infection" it has primarily to do with the protection of the healthy. But others have maintained that since one of the conditions named in the section under which compulsory removal of an infectious patient to a hospital is permitted relates to a sick person "lodged in a room occupied by more than one family" interference of the sort referred to was not intended where the patient was in a room occupied by members of his own family, provided that the sick person had "proper lodging and accommodation" for his own treatment and recovery. Owing to the differences of opinion which exist on this point it is generally deemed expedient in ordinary cases to rely rather on persuasion than on compulsion.—ED. L.

THE VACCINATION OF CLUB PATIENTS.

To the Editors of THE LANCET.

SIRS,—May I ask the courtesy of space in your columns to call the attention of my professional brethren holding posts as medical officers to friendly societies to the question of the admission of unvaccinated candidates to the medical benefits of these societies. When the older—the parent—societies were founded, from which juvenile branches have for the most part sprung, vaccination, more or less compulsory, was general throughout the country. Underneath the contract between medical officer and club lay, therefore, at this time the tacit assumption that the majority of the members entering the different lodges would be vaccinated. Circumstances are now altered. Not only has legal vaccination been for several years neglected but under the new Act it seems probable that primary vaccination among the uneducated classes will fall very largely into abeyance.

We must expect, therefore, from this time forward an increasing proportion of unvaccinated candidates, both juvenile and adult, for admission to the membership of these societies. Under these circumstances the conditions of contract between the societies and their medical officers are no longer what they were before the abandonment of vaccination, and it behoves each medical officer to endeavour to protect himself under the altered conditions. He has now laid upon his shoulders the increased responsibility, risk, and liability to expenditure arising from the presence among his club patients of a large body of members unvaccinated and therefore peculiarly susceptible to small-pox in its severest form. What that susceptibility is among unvaccinated children, both as to attack and as to a fatal issue when attacked, need not be argued here.

The report of the Royal Commission (Final Report, p. 58, par. 217) shows that among children between the ages of one year and ten, and counting as vaccinated all doubtful cases, the average fatality-rate in six carefully observed epidemics was fifteenfold higher among the unvaccinated attacked than among the vaccinated attacked. It is desirable, therefore, that those who hold positions as medical officers to these societies should decide, and if possible decide unanimously, as to the course which they will adopt in dealing with this matter. Several courses appear to be open: 1. Where medical officers are in a position to make their own terms they may refuse to accept unvaccinated candidates. 2. In less favourable circumstances they might accept them, but at an increased subscription adequate to the extra risk involved. 3. They might accept them, but with a saving clause, which should appear in writing, that the unvaccinated members when suffering from small-pox shall have no claim on the gratuitous services of the medical officer.

I shall be glad if this communication calls forth an expression of opinion from others who have considered this matter.

I am, Sirs, yours faithfully,

Nov. 14th, 1898. A CLUB DOCTOR.

[1] See Minutes, vol. xxx., p. 154.

NOTES FROM INDIA.

(FROM OUR SPECIAL CORRESPONDENT.)

The Progress of the Plague.—The Three Outbreaks in Bombay.—Concealment of Plague Cases.

A FEW odd cases of plague continue to occur in Karachi but Calcutta remains apparently free. The epidemic appears to be extending towards Madras, where some doubtful cases of fever have already been reported. In the Dharwar district and in Bangalore it is now raging with great virulence. When I reported that for some months past plague in Bombay city had been allowed practically to take its own course I referred to the comparatively mild steps which are now being taken, compared with the rigorous measures adopted by the late committee. There being now no compulsion patients are allowed to remain in their own homes and to have their friends around them. A certain number of dirty houses are cleaned or emptied and a certain amount of disinfection is employed, but as far as infection goes it may be said that plague has a clear field. Notwithstanding the confidence restored by these considerate measures the number of reported cases of plague falls very far short of the excess in the total mortality, which is probably the only true guide to any estimate of the prevalence of the disease. But the lesson I want to point out is that plague did not increase with the abandonment of the strict repressive measures but rapidly went down, and that now during the third outbreak, which has already lasted thirteen weeks, we are experiencing a mild attack compared with the two preceding developments. The following table shows the total mortality for each week since July 5th:—

			Deaths.				Deaths.
Week ending	July	5th	440	Week ending	Sept.	6th	869
,,	,,	12th	523	,,	,,	13th	823
,,	,,	19th	563	,,	,,	20th	748
,,	,,	26th	583	,,	,,	27th	864
,,	August	2nd	615	,,	Oct.	4th	1001
,,	,,	9th	655	,,	,,	11th	990
,,	,,	16th	743	,,	,,	18th	828
,,	,,	23rd	765	,,	,,	25th	711
,,	,,	30th	811				

The general mortality is about 500 a week, and it stood at about this figure during the early part of July. Any excess

over this is probably due to plague. It will be seen that the mortality rose almost continuously until it attained 1001 in the first week in October and that since then it has rapidly declined. All this time infection has had free play. The vast majority of cases have remained in their own homes, only a moderate proportion going to the hospitals. In the two previous epidemics the weekly mortality rose to over 1800 and over 2000 respectively. The justification of the present method of procedure lies chiefly in the fact that concealment of cases, either ignorantly or intentionally, is largely practised, and that compulsion, even in its old severe form, did not lead to the report of a larger proportion of cases than occurs at the present time. In short, the measures of severity were frustrated and consequently proved themselves to be practically useless. The milder measures have not been attended with that extension of the disease which the opponents of the "let alone" policy prognosticated. The late Plague Committee were erroneously given credit for the decline of the epidemic in the spring of 1897, but they only commenced their work during that decline and it can be pretty clearly shown that the outbreak had spent itself. During the second development, when their organisation was complete and when if they had power to control the course of the epidemic they certainly had the opportunity, plague pursued exactly the same course, if not a more virulent one. It may be said that for a city like Bombay sanitary organisations have proved themselves impotent to alter the natural course of a plague epidemic. Roughly, one in every forty persons was attacked in the first epidemic and about the same proportion in the second. Both epidemics lasted rather over six months. The disease exhibited similar stages in the epidemics at Poona and Karachi during the first and second developments in each city. When we look back on the history of these outbreaks it is evident that plague pursues epidemically a definite course. As there have already been more than thirteen weeks of the present third outbreak in Bombay it may be reasonably concluded that the decline since the beginning of October is a real one and not merely a lull before a more extensive advance.

Concealment of cases occurs everywhere, in the country as well as in the towns. The recorded mortality from plague must fall very considerably short of the actual figures. The Government of India in a recent letter state that "the information that has been gained regarding inoculation against plague by M. Haffkine's method is all in favour of the efficacy of the system. It has now become possible to agree generally that inoculated persons should be exempted from segregation unless they are actually attacked with plague." They go on to say that inoculated persons will still remain liable to evacuate infected houses, and when travelling will be kept under observation and subject to the disinfection of their clothes. It is now two years since plague first appeared. The efficacy of inoculation was proved twelve months ago. The Bombay Plague Committee and the Government were repeatedly asked to allow that inoculated persons should be exempted from segregation, but the plague authorities, and especially the Bombay Plague Committee, persistently refused to admit the benefit of inoculation. When the last outbreak of plague in Bombay was subsiding all measures were practically dropped, yet little or no harm seems to have resulted. If during the height of the epidemic there had been the option of inoculation for segregation thousands upon thousands would have accepted it in preference to detention in camps. Now that a third epidemic is commencing and the disease is spreading towards Madras the concession is granted. On and off quarantine has been more or less employed, but the system has practically broken down. It failed to prevent the spread of plague and it was extremely vexatious and unpopular. Very different to the measures attempted in Bombay and other parts of the Presidency were the precautions taken in Hyderabad. When plague appeared in certain villages orders were issued that no money was to be wasted on disinfectants. The means adopted were removal of the occupants of infected premises and burning the latter down. Probably these are the two most effective measures which can be taken. Compare with some of the above recent civilian orders the following. Ten days' segregation will be enforced for troops and followers moved during the ensuing relief season from any station which may have become plague-infected. Corps moving from an infected station or through an infected district will be conveyed by rail. Doubtless it is necessary to exercise extra precautions for the troops and they can be more readily carried out, but the military authorities do not yet seem to recognise that plague is only slightly contagious and that provided infected dwellings are avoided there is little or no danger in passing through a plague-stricken district.

Some returns have just been published in the *Government Gazette* concerning the outbreak of plague in various towns and districts of the Presidency which show amongst other things the decided value of evacuation of houses, especially when promptly carried out. During the wet season, when this measure was not possible, towns and villages suffered in consequence more severely. In Jalgaon (population 14,672) plague appeared on Dec. 6th, 1897. The town was quickly evacuated and the disease disappeared in March. Only 108 deaths occurred (0·7 per cent. of the population). In Nasik (population 24,429) plague appeared in October, 1897. Evacuation was carried out ward by ward and the town became free in March. Of the population 1·5 per cent. succumbed. In Malegaon (population 19,261) plague occurred in November, 1897. Here also evacuation was gradually carried out and the outbreak lasted until March. Of the population 1·6 per cent. died. In Ahmednugger (population 41,689) the outbreak commenced in September, 1897, and lasted until April. The town was completely evacuated by the end of December and the mortality was only 0·7 per cent. of the population. There being no regularity in the particulars furnished it is impossible to make a more complete comparison. In Belgaum (population 40,737) evacuation was carried out with apparent success, but re-occupation was permitted too soon. The disease quickly reappeared and the outbreak has continued to rise ever since. In other places where evacuation has not been practised, either on account of the rains or from imperfect administration, the proportion of the population attacked has been much higher. The incidence of the disease has, however, varied very considerably. Places which one would have imagined would early have been attacked have either escaped altogether or have experienced but a mild visitation. Again, other places without apparent cause have been almost decimated. As reported previously, Hubli and Dharwar are excellent examples of the immense benefits of prophylactic inoculation.

Oct. 29th.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

The Salford Corporation Bill.

THE Salford corporation intend to introduce a Bill into Parliament during the next session which, if passed, will, amongst other things, greatly extend their means of controlling certain dangers to the public health. They will seek powers to compel the removal to and the retention in a reception-house for a period not exceeding fourteen days of persons living in any house in which a case of infectious disease has occurred if the medical officer of health considers this necessary for the protection of the public health; to prevent the holding of "wakes" on the bodies of those who have died from infectious disease; to prevent the removal of such bodies by rail without the certificate of the medical officer of health that satisfactory precautions have been taken; to impose penalties on parents or guardians for knowingly allowing children to attend school when infectious disease exists in the home and on teachers for knowingly admitting such children to school; to require milk-dealers to let the medical officer of health know the sources of their milk-supply and to furnish a list of their customers when required; to prohibit the sale of milk from farms where infectious disease exists; to obtain power to enter cowsheds, &c., and to examine the cows; to compel the owners of such cows to assist in making such examination under penalty; to ensure the notification to the Health Department of disease in cows and to make the selling of milk from diseased cows a punishable offence; to obtain powers to proceed against the original seller of diseased animals; and to regulate the manufacture and sale of ice-cream.

Victoria University.

A meeting of the Court of the Victoria University was held at Owens College on Nov. 10th under the presidency of Earl Spencer, Chancellor of the University. Dr. Bodington, Principal of Yorkshire College, was elected Vice-Chancellor for a term of two years and Professor Wilkins and Dr.

Leech were elected pro-Vice-Chancellors for the same period. The adoption of the report of the Council on the Preliminary and Entrance in Arts Examinations was moved by Professor Tout. The report ran:—

> The Council, having at the request of the Court considered the resolution of Convocation that "it is desirable that there should be only one standard qualifying for entrance to the different faculties of the University," beg to report that it is in their opinion advisable to substitute for the present Entrance in Arts examination an examination the papers of which shall be the same as those of the Preliminary examination. In consequence of the requirements of the Medical Council it will not be possible to offer to students who enter the Faculty of Medicine the same number of options as is given to students entering other faculties, but provision is already made in the present regulations that any students who have satisfied the examiners in the Preliminary examination may at a subsequent stage pass in those subjects only which the Medical Council has made compulsory for the purpose of registration.

Consequent on this report, the Council recommended certain changes, which were set forth, in the statutes and regulations. Dr. Leech seconded the adoption of the report, and the motion was passed.

Death from Water-gas.

An inquest was held by the city coroner on Nov. 8th on the body of a man who had died at the Bradford-road Gas-works. In the course of his duty the deceased took off the covering of a water-gas cooling manhole in order to fix a blank flange or disc used for distributing water for cooling purposes. He had been shown how to do this by means of a hook without entering the manhole and had been cautioned against going into it under any consideration. However, he did go into the manhole, where he was overpowered by the water-gas. The yard foreman, John Mason—his name deserves mention—found him there and at great risk descended the hole himself to attempt his rescue. He was in turn almost overpowered and only just managed to scramble back. When he was got out the deceased was alive but unconscious. He was taken to the Ancoats Hospital, where he died the same day without having recovered consciousness. The coroner paid a well-deserved tribute to Mason's courage, and said that he did "a noble act in trying to rescue the deceased and the gas committee ought to be proud of him." We have heard much of late about the courage of our soldiers, and it is satisfactory to feel that the same trait runs through the whole population.

Bequests to Medical Charities.

The trustees of the late Mr. James Holden of Marland, near Rochdale, have promised a grant of £10,000 to endow a wing of the Children's Hospital at Pendlebury. They have also promised £10,000 to St. Mary's Hospital as an endowment of the new hospital which is being built in Oxford-road. By the will of the late Mr. Joseph Ellis, solicitor, besides legacies of £250 each to the Solicitors' Benevolent Institution and the Manchester Law Clerks' Friendly Society, the Manchester Hospital for Consumption, &c., the Manchester Royal Infirmary, the Southern Hospital and the Manchester Eye Hospital will each receive a legacy to the same amount.

Manchester Museum, Owens College.

Mr. C. B. Crampton, M.B. Edin., has been appointed assistant keeper in the Geological Department of the museum, in succession to Mr. Herbert Bolton.

Nov. 15th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENT.)

Unusual Arrangements at the Edinburgh Royal Infirmary.

ON Monday, Nov. 14th, at the weekly meeting of the managers of the Edinburgh Royal Infirmary, Dr. John Wyllie, one of the consulting physicians to the institution, was appointed to the charge of Professor Fraser's wards during his absence in India. The proposal to make this arrangement emanated from Professor Fraser and the medical faculty in the university and it has now been accepted by the infirmary managers. The proposal has met with a keenness of disapproval on the part of the staff, always excepting the professors who support one another whatever their personal views may be, which has had few, if any, precedents within recent years. To understand the position aright excerpts from the minute sent from a meeting of the staff to the infirmary managers may be quoted; it says "they (the staff) are strongly of opinion that it would be unjust and inexpedient to replace a member of the acting staff by a member of the consulting staff, and have come to this conclusion for the following reasons: 1. There is in the whole history of the Royal Infirmary no precedent for the proposal now made. 2. On all previous occasions in the absence of a clinical professor or ordinary professor his place has been taken by another member of the acting staff, and since the appointment of assistant physicians the substitute has always been the assistant physician who was associated with the professor or physician then absent." It then proceeds to give examples of this having been the ordinary practice. To understand this aright it is necessary to state that each full physician, whether he be a university professor or not, has an assistant physician attached to his wards whose duty is to take charge of the wards and to conduct the clinical teaching in the absence of his senior from any cause. Most of the assistant physicians have sole charge for months every year; the four senior assistant physicians are men of long experience and have lectured and taught in the school of medicine for many years and are all men ready equipped to perform professorial duties at an hour's notice and frequently have to do so. In spite of that, this extraordinary proposal has met with the sanction of the managers. The minute sent by the staff was signed by 31 of the 41 members of the staff, and of the 10 who did not sign 7 are professors. It is much to be regretted that the University in its corporate capacity should so act as to arouse resentment and ill-feeling, the results of which are far reaching and can only be deplored by all right-thinking persons.

Nov. 15th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Outbreak of Fever in the Armagh Union.

AT the weekly meeting of the Armagh Board of Guardians, held on Nov. 8th, Mr. Patterson, dispensary medical officer (Caledon), reported that there was a serious outbreak of typhoid fever in a place known as Enagh and the outskirts of the town of Caledon. Five persons had been removed to the Armagh Union Fever Hospital. It would appear that bad drainage is the probable cause, as within a few yards of the doors of the houses where the outbreak occurred the main sewer of the lower end of the town passes and empties its contents into a covered tank on the opposite side of the road, and two of the gulley-traps are placed opposite the windows of these houses and are rendered both useless and dangerous by being used by the occupants of the houses as receptacles for refuse and filth. A similar outbreak occurred in this place some time ago. Mr. Patterson made a very complete report, recommending an analysis of the water-supply and a careful examination of all the suspicious premises in the town, &c., and it was finally decided to refer the whole matter to the Caledon Dispensary Committee.

The Typhoid Fever Outbreak in Belfast.

I am glad to report that the outbreak is gradually subsiding. The number of cases notified for the week ended Nov. 5th was 72, the numbers for the previous six weeks being 98, 125, 149, 151, 172, and 114 respectively. The death-rate for the same period from all causes was 26·2, while that from the principal zymotic diseases was 4·3.

The Drainage of Belfast.

A special meeting of the corporation was held on Nov. 9th to consider a proposed drainage scheme for the "Cregagh" district, which has recently come within the city boundaries. The matter was one of great importance, but in regard to it the most diverse views are held. Some think the scheme unnecessary at present, others that it is too expensive. Others question the apportionment of the cost, while the senior alderman, Mr. Lawther, advised that the time had come when the whole question of the sewerage of the city should be taken up. Belfast had, he said, now an area of 17,000 acres, 11,000 of which comprised the added area. Their system of sewers was inaugurated thirty years ago and he was of opinion that they should have a comprehensive scheme of drainage for the whole of the city and they should procure the best skill and advice it was possible to get and have a report on the whole subject. Apparently a large number of

the corporation have no feeling in the matter, as the meeting came to a collapse for lack of a bare quorum, although a number of professional gentlemen representing those interested in the matter were present with witnesses.

The Belfast Recorder and the Medical Superintendent of the Asylum.

Attention was called in THE LANCET of Nov. 12th, p. 1299, to the extraordinary action of the Belfast Recorder, who declined to allow Dr. Graham, medical superintendent of the asylum, any fee for making an affidavit in reference to the condition of a lunatic and for attending in court. The Recorder made this ruling on the ground that, being a public servant, Dr. Graham was paid for that duty by the Government, and, further, he stated that his (Dr. Graham's) predecessor did not make such charges. At the usual meeting of the asylum governors on Nov. 14th Dr. Graham referred to the lecture which he had received in court from his Honour the Recorder and which had been published in the Belfast papers of Nov. 8th. Dr. Graham said that he could prove that his predecessor (Dr. Merrick) did charge fees for making affidavits on the mental condition of patients under his care and he read letters to show that the custom he had followed of charging a fee was the usual one. In the first letter Mr. Colles, Registrar in Lunacy, Four Courts, Dublin, writes, under date of Nov. 9th, that in his opinion the medical officers of district asylums are, as regards the giving of evidence in civil proceedings, in the same position as any other medical man. "That," he says, "is the principle on which successive Lord Chancellors have, without any exception, acted during the twelve or thirteen years that I have been here." "Asylum officers," he adds, "are frequent witnesses in lunacy cases before the Lord Chancellor in cases where the patient is under their care and their fees are always paid as a matter of course." The other communication read by Dr. Graham was from Mr. Smith, Office of Lunatic Asylums, Dublin Castle, and is dated Nov. 12th. In this letter he writes to Dr. Graham: "With reference to your communication of the 7th inst. asking if you can be compelled to make an affidavit and attend in court to give evidence on the mental condition of a patient under the care of the county court without being paid a fee, I am directed by the inspectors to state that they have not yet been able to obtain legal opinion on the question, but so far as the custom in other parts of Ireland is concerned they can state that in all such cases within their knowledge the resident medical superintendents of district asylums have always received fees for making affidavits and giving evidence in court relating to such patients."

Report on the Health of the City of Belfast for the year 1897.

It is interesting to note that the total deaths from zymotic diseases during 1897 was 1111 as compared with 1005 in 1896. The deaths registered under most of the zymotic headings were fewer in 1897 than in 1896, but in the former of these two years there were 336 deaths from typhoid fever and 355 from diarrhœa, as compared with 136 from typhoid fever and 206 from diarrhœa during 1896. Dr. Henry Whitaker, medical superintendent officer of health and author of the report, states that whilst typhoid fever occurred in 2·7 per cent. of the houses having water-closets, the houses with privies had 5·5 per cent. The disease was not confined to any district of the city, but it is a curious fact that the two districts (Dock and Millfield) which in his opinion were the most insanitary were those in which typhoid fever was the least prevalent.

Nov. 15th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The Treatment of Aneurysm by Subcutaneous Injections of Gelatin.

AT the meeting of the Academy of Medicine held on Nov. 8th M. Lancereaux answered certain objections to this method of treatment which had been put forward by MM. Huchard and Laborde. M. Lancereaux referred to some experiments which he had made upon animals, which showed that in a very short space of time after the injection of gelatin blood drawn from the general circulation would coagulate in a few minutes. In man after an injection he had never seen coagulation occur anywhere else than in the aneurysmal sac. The operative technique of the injection is as follows. White gelatin in a quantity of from 4 to 5 grammes is dissolved in a 7 per cent. solution of sodium chloride in measure 1000 to 2000 c.c. The solution is placed in a flask which is sealed and then sterilised with its contents at a temperature of 120° C. For the injection a flask of the capacity of 500 c.c. is got ready, fitted with a cork and two tubes like a wash bottle. The long tube is connected with a sterilised needle and the short tube with an indiarubber air-ball. The gelatin is liquefied in a water bath at a temperature of 35° C. and poured into the flask which is also kept in a water-bath. The injection is made slowly into the subcutaneous tissues and should take fifteen minutes. Thus performed it is not painful and no reaction follows. It should be repeated every six or eight days until the sac is obliterated. M. Lancereaux concluded by saying that this method, if carried out with care, gave excellent results in the most desperate cases.

The Surgical Treatment of Ptosis.

At the same meeting of the Academy of Medicine M. Motais introduced details of a new method for the treatment of ptosis. M. Motais considers that the anatomical and physiological connexions of the muscles which elevate the eyeball and the upper eyelid afford good grounds for supposing that the action of the one can supplement that of the other. Acting on this theory he has invented an operation which he has already practised in five instances. This operation, which consists in grafting the superior rectus to the eyelid, is of course of no use in those cases of ptosis where this muscle is paralysed as well as the levator palpebræ. Grafting the eyelid will suffice in most cases of ptosis, but where the eyelids are much thickened a combination of grafting and resection must be employed. The results obtained are practically perfect, the normal physiological conditions and movements of the eyelid being restored.

The Painless Treatment of Cracks in the Nipples.

At the meeting of the Obstetrical Society held on Nov. 10th a paper was read by MM. Maygrier and R. Blondel upon the Treatment of Forty Cases of Cracked Nipples at the Charité Hospital. They had dressed the cracks with orthoform which brought about complete anæsthesia during suckling and kept the cracks aseptic. The application of the powder causes only slight smarting. The infant was put to the breast a quarter of an hour afterwards and sucked eagerly, as orthoform has neither taste nor smell. The anæsthesia persists for some time. MM. Maygrier and Blondel made trial of orthoform powder alone, of orthoform followed by a moist dressing of boric acid, and finally with a strong alcoholic solution of orthoform dropped into the cracks. They considered this last method the best for it caused no more initial smarting, but it quite did away with infection of the breast, probably because the solution was able to penetrate into the recesses of the fissures.

The Toxicity of Appendicitis.

At the meeting of the Academy of Medicine on Nov. 8th M. Dieulafoy argued that appendicitis is not only infectious but actually toxic. This theory explains those grave and sometimes fatal effects which supervene in cases of patients attacked with appendicitis. M. Dieulafoy related the case of a young man, aged twenty years, who had walked into the hospital. He was slightly jaundiced and complained of abdominal pain which had lasted for four days. The seat of the greatest pain was at MacBurney's point. The urine contained urobilin and albumin and his temperature was 37·4° C. (99·3° F.). The pain gradually diminished, he had no signs of peritonitis, and there was no puffiness in the iliac fossa. Laparotomy was performed and the parts were apparently healthy, but on passing the finger into the true pelvis a collection of foul-smelling pus was opened up and the appendix was bathed in this. It was exceedingly swollen and gangrenous in places, so it was removed and the patient recovered. The gravity of these lesions in no way corresponds with the gravity of the symptoms. The appendicular toxins may impair the action of the liver and the kidney, the result being urobilinuria, symptoms of which are frequently observed in the course of an attack of appendicitis. The toxæmia may be only very slight or it may be intense and even fatal. It is therefore necessary to make up one's mind so as to act at once. There is a toxic centre which it is necessary to do away with as soon as its presence is obvious. Jaundice, a sign of the invasion of the liver, is often a warning signal

of very grave toxæmia which acts upon the nervous system. The only means of coping with this disease is to do away with the toxic centre. With a correct diagnosis and an operation performed in good time all these disasters may be avoided, for no one, M. Dieulafoy urges, ever ought to die from appendicitis.

Matriculation Fees in the Universities.

The readers of THE LANCET are already conversant with the agitation set up among the students of medicine at the University of Paris against the new regulation by which admission to the library to the Faculty of Medicine is only to be procured by payment of a fee. Dr. de Lavarenne has set out the causes which made the University take this step in a long and very detailed statement. According to the new law the State revenue and the University revenue are very definitely allotted. The State pays the expenses of all the professors and administrative staff, but all questions of upkeep and various other expenses are laid to the charge of the University. The State only takes over the graduation fees and the University takes all the others, but this latter body has in addition the right of receiving legacies. As a matter of fact, although these laws were laid down with the view of favouring the University, a deficit for this year exists of 46,000 francs. In two or three years' time, it is hoped, legacies which will doubtless come in will have wiped off this deficit, but it was with the view of liquidating this year's debt that the University had imposed new fees, and among others the one dealing with the right of entry to the library. With the view of enabling his readers to compare the differences existing under the old regulations and the present ones M. de Lavarenne brings forward figures to prove his point. In 1896, when the State took all the fees and equally paid all the expenses the State received fees brought in by all departments of the University, amounting to a total of 820,150 francs. On the other hand, it paid personal expenses, laboratory expenses, building and furnishing charges, lighting, warming, printing, and office expenses, examination expenses, museum charges, laboratory and practical work expenses, prizes and medals—a total of 357,565 francs. In addition to this it paid the salaries of all the staff, both teaching and administrative, amounting to 1,080,975 francs, and gave a sum of 39,950 francs as well for library staff expenses. In 1899 the State will pay as formerly the expenses of the teaching and administrative staff, say 1,111,600 francs; it will also pay the library expenses, but, as has been said already, it will not incur any further charges. The fees arising from graduations will be the sole fees which the State will take in future; they amounted in 1896 to 509,027 francs. Consequently if it be considered that 820,000 francs is the total income (*le total des recettes*) of the University, and of this the State will take 509,000 francs, it necessarily follows that the University will only have 311,000 francs left to pay all the expenses of the Faculty of Medicine. In the days when the State paid everything the share of the Faculty was 357,565 francs, so that under the present regulations there is a deficit of 46,000 francs.

Nov. 15th.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

Medical Officers for Schools.

THE municipal authorities of Berlin have decided to appoint medical officers to the municipal schools. This step will certainly meet with the general approval of the medical profession which has for a long time past recommended medical supervision of schools. According to the instructions drawn up by the municipal school board the duties of these medical officers will be as follows: (1) They will examine children as to their state of health before they enter a school; (2) in cases of bodily or mental abnormalities they may recommend the adoption of special instruction; (3) they will have to look after children who are absent from school without sufficient reasons; (4) they will have to advise the headmaster in cases of infectious diseases; (5) they must give notice to the school board when they have found the health of the children unfavourably affected by the unhygienic conditions of a school; (6) they will have to be present at a certain hour at the school once a fortnight so that the masters may obtain their advice in individual cases; (7) they will have to control the class-rooms without reference to the hours of instruction; and (8) all the medical officers to schools will have to meet regularly under the presidency of a member of the school board to discuss matters relative to the hygienic conditions of schools, &c. The duties of these medical officers will be thus rather complex and a good deal of tact will be required on the part of these gentlemen to avoid friction with the teachers or with the family medical attendants of the children. A large proportion of school managers and teachers is opposed to the appointment of these medical officers because they are anxious that their own authority shall be supreme in everything that belongs to the schools and they are of opinion that the medical men may eventually undermine discipline. These apprehensions, however, seem to be unfounded, for a similar system has given satisfactory results in other towns, as, for instance, in Wiesbaden.

Hydropathy and Vegetarianism.

The late Professor Baron, a member of the faculty of law at the University of Greifswald, has bequeathed a sum of 500,000 marks (£25,000) to the city of Berlin for the purpose of erecting a home for orphans. The late professor was a strong adherent to the principles of vegetarianism and in his will he stipulated that none but vegetarian food should be used in the home. In addition to being a fervent vegetarian he also looked on the medical profession with disfavour and there was therefore another paragraph in his will to the effect that medical men were excluded from the board of managers and that in cases of illness the advice of a "hydrotherapeutist" was to be obtained. The municipal council is in great difficulties in connexion with this legacy, especially its last-mentioned proviso. Our "ædiles," of course, would like to accept the large sum left to them and would like to employ it for the philanthropic work devised by the testator. But they cannot do so without strictly executing the peculiar provisions contained in the will. A sub-committee elected to find a way out of this dilemma has not been able to come to a definite opinion and the matter continues to be discussed both in the vegetarian and medical associations, one party asking the municipal council to accept, the other to reject, the sum given under such conditions.

Female Medical Practitioners.

The medical supervision of prostitutes and of women arrested for immoral conduct on the streets is exercised by the police medical officers and an unfortunate event has lately drawn public attention to the subject. A girl waiting one night in the street for a man to whom she was engaged to be married, who happened to be detained rather late, was charged by a man with having made immoral proposals to him. She was accordingly arrested by a policeman, taken to a police-station, and kept there till the next morning; she also had to undergo examination by the medical officer. The charge proved to be an act of revenge, and both the man who made it and the policeman were severely punished. This case caused a considerable sensation in Berlin. The journals pointed out that similar events may occur not infrequently and that women's feelings must be greatly hurt by medical examinations of this kind. In the hope of conciliating objectors the chief of the police proposed that the examinations of prostitutes should henceforth be made by medical women, a suggestion which was at once severely criticised in the medical press, the chief of the police being asked whether he did not know that legally qualified medical women do not exist in Germany and that all the ladies engaged in practice here are unqualified in the eye of the law since they hold none but foreign diplomas, obtained chiefly in Switzerland. The chief of the police then explained that the lady to be appointed would be regarded as an unqualified assistant to the police surgeon to whom she would be responsible, and who would decide what part of his duties he would delegate to his assistant. In this way the requirements of public opinion as well as the laws relating to medical qualifications would be complied with. As these proposals were obviously an evasion of the law some of the practitioners' associations have petitioned the medical chamber that measures may be taken to prevent an unqualified person from holding a Government medical appointment. They point out that if the prostitutes were entitled to decline to be attended by male practitioners a general precedent applicable to all classes of

society would be established. In fact, the Association of Female School Teachers has already asked the Municipal School Board that the certificate of health required for appointments at public schools should henceforth be given by female medical officers. Not only is there a strong agitation among the women's associations relative to this matter, but the cause is furthermore supported by a number of the younger medical men.

Periostitis of the Orbit a Complication of Measles.

A rare complication of measles is described by Dr. Strubell in the *Münchener Medicinische Wochenschrift*. A boy of sixteen years of age had a pyrexial relapse in the period of desquamation after measles. He complained of severe headache especially near the left eye, abundant discharge of tears, photophobia, together with œdema of the eyelids, chemosis, exophthalmos, and injection of the ciliary vessels. The cornea and the pupil were normal but there was severe pain at the edge of the orbit. The fever in course of time disappeared and when the inflammatory symptoms had decreased Dr. Strubell found a swelling of the inferior wall of the orbit. The swelling got better within a short time and it was therefore evident that it was due not to cellulitis behind the eyeball but to simple periostitis. A similar complication after scarlet fever in a child of eight years has been observed by Dr. Wagenmann and Dr. Krehl; all the symptoms disappeared within a fortnight.

Nov. 14th.

ROME.

(FROM OUR OWN CORRESPONDENT.)

The Connexion of Mosquitoes with Malaria: Who first Discovered it?

QUESTIONS of "priority" in scientific discovery are dear to the Italian mind to judge from the space their discussion occupies in journals professional and lay. I recently communicated the claims of the Roman school to having determined the fact that it is "zanzare" (mosquitoes) which convey the poison of malaria and I pointed out what Dr. Bignami had contributed in concert with Dr. Dionisi towards that demonstration. His "mosquito-hypothesis," according to one of his most strenuous vindicators (Dr. N. Arcangeli of the San Giovanni Hospital), dates as far back as 1894, but his means of putting it to the experimental test were so imperfect that he could get nothing but negative results. "Meanwhile," says Dr. Arcangeli, "the hypothesis sustained by him more than held the field and was accepted by Laveran, who had till then supported the 'water-hypothesis.' Professor Koch, on his visit to Africa, had also adopted it, but what he has done to reinforce it will not be known till his promised report sees the light. The next step in Dr. Bignami's researches was his working on the lines of Dr. Grassi (Professor of Comparative Anatomy in the University of Rome), who had come to the important conclusion that in malarious localities there are found some kinds of 'zanzare' which are not found in healthy ones, and that these could inoculate the special poison. Repeating his experiments," continues Dr. Arcangeli, "Bignami employed the mosquitoes indicated by Grassi" and proved his hypothesis that it is by such means that malaria is inoculated in the human subject. But now comes Professor Grassi himself in correction, if not in abatement, of Dr. Bignami's claims, and his letter (which appears in to-night's *Corriere della Sera* of Milan) is so important that I shall quote its leading matter, translating Professor Grassi's own words: "I do not ignore Bignami's merit in having rendered probable the hypothesis that malarious fevers come by inoculation from mosquitoes, and in having first tried experimental proof in that sense, together with Dionisi, who thereafter extended his friend's hypothesis and experiments to birds. The fact, however, stands that both of them supposed that the 'zanzare' and cognate insects inoculated malarial germs taken from the soil, *while their experiments* [the italics are Professor Grassi's] *were always negative*. I cannot keep silence on the fact that it was I who first thought and proved that in places where malaria can be developed in man there exist peculiar mosquitoes which are absent where malaria is not so developed. Let it be added that from this proof and from a series of demonstrations and experiments made by me coincidently with the said proof I was led to maintain that *special mosquitoes* play the part in malaria which the 'zecche' (the *schaflaus* of the Germans) perform in Texas cattle-fever, and to exclude the necessity of recurring to the hypothesis of malarious germs in the soil. Nay, I proposed to Bignami (who had this year experimented largely and always in vain with mosquitoes held by me to be innocuous) to renew the attempt with those special mosquitoes I had procured for him. He accepted the proposal and so made the experiment which I had not at the time the opportunity of carrying out—the experiment which consisted in getting the mosquitoes, by me determined, to puncture an individual who had long been punctured in vain by the mosquitoes held by me innocuous. The experiment which was therefore reduced to this—namely, to liberate my mosquitoes in a room, with healthy atmosphere, inhabited expressly by the individual referred to—succeeded perfectly. The reader can now see for himself what part of the merit belongs to Bignami and what to me." So far Professor Grassi. It will be of interest to know the distinguishing marks of his "special mosquitoes," so as, *inter alia*, to understand how it is that in Rome, where there are no mosquitoes properly so-called, malaria is prevalent, while in Florence, where mosquitoes (properly so-called) abound, there is no malaria at all.

Nov. 12th

EGYPT.

(FROM OUR OWN CORRESPONDENT.)

The Health of the British Troops in Cairo.

A STATEMENT recently published in the London papers that "there are about four deaths every day from enteric fever in the Cairo hospital," and that there are numbers of cases of "both officers and men," requires a little modification. For some days, it is true, there were as many as four deaths in a day and even more, but this was for very few days. Now the number of enteric cases is lessening and the severity of the disease is less, so that the death-rate as well as the sick-rate is lower. By the last weekly returns the Cairo strength is returned at 3623; the sick-rate is 365, and the number of enteric fever patients among the sick is 96. The remainder of the sick were chiefly affected as follows:—simple, continued, and other slight fevers, 28; dysentery and diarrhœa, 40; ague and remittent fever, 17; venereal diseases, 48 (which is relatively small); debility, 12; and gunshot wounds, 13. The cases of dysentery, which were never very severe, are no longer coming in, for the incubative period of dysentery is considerably shorter than enteric fever. The Citadel Hospital is not now inconveniently overcrowded and there are no longer patients in tents. There are now 6 officers ill in the hospital, 4 from the British troops and 2 from the Egyptian Army. The whole number of officers who have contracted enteric fever is 6, 2 belonging to the Cairo command and 4 to the Alexandria garrison. Unfortunately, 3 of the latter have died. The officers have suffered from enteric fever and from all other diseases much less in proportion than the men. The Camerons head the sick-list with 90 of their men, and it is worth noting that the company which visited Fashoda has suffered from enteric fever and from dysentery considerably more than any other company in the same regiment. The Seaforths have 80 sick and the 21st Lancers have 40 in hospital, but one-third of these supply the few wounded who still remain.

The British Troops in Alexandria.

Out of a garrison of 1550 there are 198 sick, 61 of them being returned as "enteric." The other important figures in the weekly return are: venereal, 38; remittent fever, 17; dysentery and diarrhœa, 14; Mediterranean fever, 12; debility, 9; tubercle, 4; and gunshot wounds, 4. It is noteworthy that eye diseases are represented by 6 cases in Cairo and 2 in Alexandria, and that at no time has there been any serious ophthalmia. This is considerably different from the French expedition in Egypt a hundred years ago when the troops suffered terribly and two of Napoleon's generals each lost an eye from ophthalmia. The Fusiliers at Alexandria contribute now 57 to the sick-list, while there are 33 from the Gordons who are fresh from India, besides a large number of sick soldiers left behind by regiments which have now gone away.

A Comparison of Enteric Fever Occurrences with Former Years.

None of the enteric fever above mentioned has been caught in Cairo; already there have been 350 cases traced to the expedition this autumn. The soldiers who did not go to the front have not suffered from enteric fever, and the same applies to the barracks full of women and children. In 1897 there were only 30 cases of enteric fever in the army in all Egypt out of an average strength of 4450. This is not a large number when it is remembered that the young soldiers are at the most susceptible age and that in the bazaars they drink all sorts of foul liquids. In 1896 there were 97 cases of enteric fever in Egypt, but 47 of these were traced to the Dongola expedition, so that the number of Egyptian cases was 50. This, again, was an improvement on 1895, when there were 76 cases recorded. This gradual diminution from 76 to 50 and again to 30 is believed to be due to the extra precautions taken in barracks and hospitals to supply filtered and boiled water to the men.

The coming Cairo Season.

In spite of the absence of the German Emperor the season promises to be exceptionally good. The principal hotels have already double the number of visitors which they had last November and most of the dahabiyehs on the Nile have been engaged. Two new hotels will be opened next month and several existing ones have enlarged their premises during the summer.

Cairo, Nov. 8th.

AUSTRALIA.

(FROM OUR OWN CORRESPONDENT.)

A Medical Bill for New South Wales.

ONCE more a Bill has been introduced into the Legislative Council of New South Wales to regulate the practice of medicine. In addition to the usual clauses as to persons who not being legally qualified medical practitioners within the meaning of the Act take any name implying qualification the Bill contains clauses referring to persons advertising that they treat disease—to the effect that any person so doing must in such advertisement state Christian and surname in full and place them on any house referred to in the advertisement, and any person purporting to be but not being the person so stated in the advertisement is liable to a penalty of £20. In connexion with this subject a meeting of representatives of the various medical societies of New South Wales was held recently, at which it was resolved that the Council of the New South Wales Branch of the British Medical Association be requested to take action in urging on the Government the necessity for placing a Medical Act on the Statute Book and also an Indecent Advertisement Suppression Act. It was also suggested that a medico-Parliamentary committee should be appointed to watch all medico-Parliamentary matters.

Registration of Midwives in New South Wales.

The Bill to register Midwives has passed the second reading in the Legislative Assembly of New South Wales with some slight amendments in Committee. Dr. Graham, in moving the Bill, said the measure sought to place midwives under supervision and control by causing them to have their names placed on a Government register. The Bill would not prevent any woman carrying on the business of nursing, but to be a licensed midwife a woman would have to possess reasonable qualifications. Any woman who prior to the passing of the Act had carried on the business of a midwife would be entitled to a licence on production of a certificate of good character signed by medical men.

The Public Health of Tasmania.

The Central Board of Health, Tasmania, has issued its report for the year 1898. It appears that, in spite of epidemic visitations of typhoid fever, diphtheria, and scarlet fever, the general health of the colony has been good. The death-rate from all causes was very slightly lowered, being 11·53 per 1000 living. The increase in the number of notifications of disease was over 100 per cent., but the increase in the mortality from the same was under 5 per cent. The low mortality is attributed to the facts that the diseases were of a mild type and that more cases were treated in hospitals. The decrease in the mortality from diphtheria having coincided with a great increase in the use of antitoxin the Board "cannot but regard it as the cause." The incidence of typhoid fever as regards locality is noteworthy. The two principal cities—Hobart and Launceston—contributed 35 per cent. of the total, while six townships—Beaconsfield, Lefroy, Queenstown, Teehan, Macquarie, and Hamilton—contributed 43 per cent., and the remainder of the country districts only 21 per cent. The report does not explain this incidence, except that in Hamilton it "is certainly in part due to the inferior quality and insufficient quantity of the water-supply." The Board has drafted a Bill for Amending the Vaccination Acts. Although it believes "that the only efficient preventive measure against small-pox is universal vaccination," it has modified the compulsory clauses in accordance with the suggestions of the report of the recent Royal Commission on Vaccination in England. It is also provided that all parents may demand the use of glycerinated calf-lymph. Since this report was issued the Bill, as drafted, has passed both Houses of Legislature, and it will come into force on Jan. 1st, 1899.

Cremation in Victoria.

A Bill to regulate cremation has been introduced into the Legislative Council of Victoria. It provides that trustees of cemeteries may undertake cremation instead of burial and expend moneys for that purpose and charge fees. No cremation is to take place without the production of two special medical certificates. It is understood that the Bill was drafted by the Council of the Cremation Society, and chiefly by its President, Mr. Justin A'Beckett. At the annual meeting of this society held recently a proposal was mooted for starting cremation by private enterprise, but it did not meet with approval.

The Poisons Act in Victoria.

A Bill to amend the Poisons Act has been circulated in the Legislative Assembly of Victoria by the Government. It provides that the Poisons Act shall not apply to the sale of any poison when made up as a medicine by a legally qualified practitioner or chemist; or in the form of homœopathic medicine, unless in the crude state or of a greater strength than the third decimal potency; or to patent medicines, veterinary medicines, photographic materials, vermin destroyers, fly papers; or to wholesale dealings. The burden of proof that an article does not contain poison is placed on the defendant. A record of the sale of any article containing poison is to be kept and the wrapper of the article is to have the word "Poison" printed conspicuously thereon.

A Druggist Sued for £3000 for Negligence.

Reference has been previously made to the case of Mr. S. P. Williams,[1] of Fitzroy, Melbourne, who died from the effects of a hypodermic injection which was self-administered and which was alleged to be atropine, given him by a druggist in mistake for morphine. His widow has now brought an action against the druggist, claiming £3000 damages. The jury returned a verdict for the defendant. The judge in summing up said that negligence was admitted by the defendant and the real issue the jury had to try was whether death resulted from the negligence. Not one of the medical witnesses was able to say positively that death was due to atropine poisoning. Some of the medical witnesses did not think the appearances were in keeping with those of atropine poisoning. The two medical men who first saw the deceased were told by his wife that he had injected cocaine. The analytical chemist had failed to find any trace of atropine in the body. The deceased was a confirmed morphiamaniac and was also in the habit of injecting cocaine, and the medical evidence showed that the post-mortem appearances were perfectly consistent with cocaine poisoning.

Medical Litigation.

At the Newcastle District Court (N.S.W.) Dr. Harold Knowles Bean of Wallsend sued Dr. John Brady Nash of the same place for £200 for alleged slander. The plaint set out that in May last the defendant falsely and maliciously spoke of the plaintiff and of his treatment of a patient then under his care in the Wallesend Hospital, saying, "I consider your treatment of this leg the most disgraceful piece of surgery I have ever seen. You are the most incompetent surgeon I ever met and a disgrace to the hospital. I have watched

[1] THE LANCET, May 14th, 1898.

you before and just laugh at you." The plaintiff said that ever since he had settled in Wallsend there had been friction between himself and the defendant, and the latter had threatened to get him out of the place. His treatment of the fractured leg was perfectly warranted by the circumstances and the patient was in attendance to give evidence. Four medical witnesses gave evidence that Dr. Bean's treatment was correct. Dr. Nash gave evidence that the bones of the leg were necrosed, that the dead bone should have been removed sooner, and that the man had a stiff joint which should have been prevented. He had offered to withdraw the strong language he had used about Dr. Bean, but Dr. Bean also wanted him to admit that his opinion about the treatment of the case was wrong. The judge here suggested that the case should be amicably settled out of court. The parties retired and when the judge returned he announced that Dr. Nash had unconditionally withdrawn the charges made against Dr. Bean, and that he had admitted that they were without foundation and had expressed regret for having made them. The complainant accepted the apology and withdrew the plaint.

A Health Officer Suspended.

Mr. Collier, health officer of the shire of St. Arnaud, Victoria, has been suspended by the local council for neglecting to report a case of diphtheria which had been treated for some days in a private house in the centre of the town.

A Medical Officership at the Melbourne Benevolent Asylum.

As the outcome of the complaints as to not holding inquests at the Melbourne Benevolent Asylum the committee have decided to appoint a paid resident medical officer and have advertised the position at a salary of £200 per annum.

St. Vincent's Hospital, Melbourne.

The sisters of charity have purchased a fine site in Melbourne known as Chalmers' Church, formerly the property of the Presbyterian Church, on which it is probable that they will erect a new St. Vincent's Hospital, though they have not finally decided whether they will do so or erect schools there and enlarge the existing hospital on its present site. The sum already subscribed for building purposes amounts to £3000. The sisters hope to raise sufficient funds by a bazaar and carnival next Easter.

Retirement of Dr. G. E. Rennie.

Dr. G. E. Rennie of Sydney has resigned his appointments as deputy coroner, honorary physician and pathologist to the Prince Alfred Hospital, examiner in pathology to the University of Sydney, and honorary secretary of the New South Wales Branch of the British Medical Association. Dr. Rennie is leaving Sydney, and has been presented with addresses by the Council of the New South Wales Branch of the British Medical Association and the Sydney and Suburban Provident Medical Association, placing on record their appreciation of his valuable services, their regret at his departure, and their good wishes for the future. Dr. Rennie has for a long time held one of the foremost positions in the profession in Sydney as a highly scientific and energetic pathologist and physician and his departure will be a great loss to Sydney.

Removal of both Internal Jugular Veins.

In the *Intercolonial Medical Journal* for September, 1898, Dr. R. A. Stirling records a case of recurrent epithelioma of the glands of the neck in which he had removed the whole of the right sterno-mastoid muscle and the internal jugular vein from 1½ in. above its union with the subclavian to just below its emission from the skull with a mass of glands firmly adherent to it. About twelve months later recurrence necessitated a similar operation on the left side, which was successful.

Sept. 30th.

UNIVERSITY OF CAMBRIDGE.—The University Lectureship in Chemical Physiology has been filled up by the appointment of Mr. F. G. Hopkins, M.B., B.Sc. Lond., formerly of Guy's Hospital. During the past year 39 candidates out of 75 examined have received the Diploma of Public Health. Mr. P. J. A. Secombe, M.A., of St. John's College, has been admitted to the M.B. degree. The first and second examinations for M.B. and B.C. will begin this term on Dec. 12th and the third examination on Dec. 13th.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

MEETING OF THE COUNCIL.

AN ordinary meeting of the Council was held on Nov. 10th, the President, Sir WILLIAM MACCORMAC, Bart., K.C.V.O., being in the chair.

A letter was read from the Committee of the Medical School of St. Bartholomew's Hospital, calling attention to the serious dislocation of the teaching arrangements for students of the first year resulting from the altered regulations of the Combined Examining Board issued in July last in regard to Dissections, and strongly recommending the removal from the Regulations of the following clause, viz.: "This period of Dissection must be subsequent to having received instruction in the subjects dealt with under subparagraphs 2 (*a*) (Chemistry and Physics and Practical Chemistry), and (*c*) (Elementary Biology)."

The matter was referred to the Committee of Management to consider and report.

The Council adopted the report from the Court of Examiners and in accordance therewith directed that Diplomas of Membership should be issued to 120 candidates.

The Secretary reported the notices of motion sent in for the meeting of Fellows and Members on Nov. 17th.

ANNUAL MEETING OF FELLOWS AND MEMBERS.

The annual meeting of the Fellows and Members was held on Nov. 17th at 3 P.M. There were present 104 Fellows and Members (including 14 members of the Council).

The PRESIDENT (Sir William Mac Cormac, Bart., K.C.V.O.) who was in the chair, presented to the meeting the Report of the Council for the year ending July, 1898. He referred to the success which had attended the representations of the Council in inducing the Government to establish a Royal Army Medical Corps and also the action of the Council in regard to a proposed interference with the practice of British medical men in Italy.

In moving the first resolution—

That this meeting congratulates the Council on the successful results of its representations in the matter of the reform of the Army Medical Service and trusts that it will now turn its attention towards remedying the notorious abuses which exist in connexion with civil medical practice—

Mr. GEORGE BROWN said that there were many great abuses which needed the earnest attention of the Council. Medical practice could only be carried on if the fees were on a remunerative scale.

The resolution was seconded by Dr. DANFORD THOMAS, who urged on the Council the importance of obtaining a new Medical Act which of itself would remedy half the existing medical abuses. If the Council would grant their support the movement would surely be successful.

The resolution was carried *nem. con.*

Mr. JOSEPH SMITH moved the second resolution—

That in view of the expressed opinion of the Council that it "represents the whole and therefore all parts of the Corporation," and in view of the fact that, so far as it has hitherto been possible to ascertain their sentiments both individually and at general meetings, the opinion of a large number of the Members is and has been for many years past that they should have some share in the election of the governing body, this meeting requests the Council to again consider whether some means cannot be found of fulfilling this desire—

and remarked that this resolution had appeared every year since 1884. He thought the best arguments in favour of the resolution were contained in a letter of Mr. Hutchinson which appeared two years ago. He proceeded to read the greater part of this letter.

Dr. THOMAS MORTON seconded the resolution, and urged the Council to withdraw from the impossible position taken up by them at their meeting in May, 1897, when they claimed to represent the whole College.

The resolution was supported by Sir ROBERT CRAVEN, Mr. HOUGHTON, Mr. WATTS, Mr. RICHMOND, and Mr. BELL, and was carried *nem. con.*

Mr. W. G. DICKINSON then moved—

That this meeting notes with satisfaction that the Council has at last definitely expressed its disapproval of canvassing for patients and of the employment of professional advertisements addressed directly to the lay public, and this meeting further trusts that the Council will extend its disapproval to the acting by Fellows and Members of the College as paid officials of any association which adopts these unprofessional practices—

and said that the Council did not seem to understand what

was wanted by those who brought before the Council cases of Members of the College who acted for medical aid associations. The important point in the whole matter was that advertising should be put down and no Member of the College should be allowed to accept a post under any advertising association.

Dr. HERBERT SNOW seconded the resolution, which was carried.

The next resolution—

That this meeting approves of the proposal to institute a gown for the Members of the College and trusts that the Council will see its way to carry this suggestion into effect—

was introduced by Mr. BRINDLEY JAMES and seconded by Dr. F. H. ALDERSON.

The PRESIDENT informed the meeting that the Council had already apppointed a sub-committee to consider the subject.

The resolution was carried.

Medical News.

EXAMINING BOARD IN ENGLAND BY THE ROYAL COLLEGES OF PHYSICIANS AND SURGEONS.—The following gentlemen have passed the First Examination of the Board under the "Five Years" Regulations in the subjects indicated, viz. :—

Part I., Chemistry and Physics :

Adam, George Henry.
Avery, John.
Barnes, Ernest Charles Edward.
Bourgault, Auguste René.
Clowes, George Martin.
Coltart, Charles Herbert Romer.
Copland, John Brightman.
Cunninghame, Harry Bell.
Goldstein, John Leopold.
Graves, Harman John Howland.
Griffin, Ernest Harrison.
Grote, Robert George Ernest.
Howard, James.
Hughes, William Shelbourne.
Im Thurn, Robert Mackenzie.
Jeffery, Thomas Walter.
Johnson, Henry.
Johnson, Marchant Richard.
Lloyd, John Daniel Stuart.
Lovell, William.
Marshall, Oliver.
Porter, James Houston.
Power, Tom Costello.
Reatchlous, Henry Arnold.
Ring, Charles Augustus Eamonson.
Roberts, Frederic Emilius.
Stansfield, Walter.
Stephenson, John Leeming.
Thomas, Daniel Jenkins.
Waldron, Charles Edward.
Williams, Augustus Scott.
Wood, René William Louis.

Part II. Practical Pharmacy :

Alderson, Percy Francis.
Bateman, Ambrose Harold.
Bennett, Francis Grey.
Bird, Albert Edward.
Birt, Amelius Cyril.
Bond, Henry.
Bridges, David.
Brookes, James William Auston.
Bulteel, Cecil Edward.
Butler, Harold Branson.
Child, Harry Norman Rix
Claye, Everard.
Conolly, Noel Alfred William.
Cooke, Reginald Torriano.
Cope, Gilbert Edgar.
Cotton, Frederick William.
Crozier, George Rowland Henderson.
Dáll, Elliot Wilfred.
Dyer, Walter Percy.
Ellis, Ernest Fitzgerald.
Enderby, Thomas Sydney Dawber.
Farquharson, Charles Henry.
Fletcher, George William.
Foster, Arthur Herbert.
Gee, Claude Alfred Heath.
Graves, Robert Kennedy Grogan.
Hagger, Roger Lionel.
Hertslet, Lewis Eccles.
Hope, Percy Lake.
Iles, Alfred John Hopkinson.
Keir, John Duncan.
Latham, Thomas Jones.
Lightfoot, John Henry.
Lipscomb, Neil.
Lloyd, David George.
Lowe, George Carter.
McIlroy, James Archibald.
McQueen, John Falconer.
Matheson, Farquhar Mackenzie.
Mieville, George Christian Blake.
Millar, Ernest Richard.
Neil, William Herbert.
Nimmo, Wilfred Cowan.
Parker, Charles Seymour.
Petrie, Alexander Sturrock.
Reid, James Derham.
Richard, George Herbert.
Rose, Edmund Frederick.
Rose, Thomas.
Row, Edward Reginald.
Scoones, Harold Edward.
Sheehan, Michael.
Spencer, Sandy.
Swindale, Henry Vernon.
Turner, Harry Stanley.
Vaughan, John C. F. Dudley.
Walters, Henry Blanchard.
Watson, Cecil Francis.

Part III., Elementary Biology :

Bishop, Thomas Henry.
Le Bas, Dumaresq.
Stephenson, John Leeming.

The following gentlemen have passed the First Examination of the Board under the "Four Years" Regulations in the subjects indicated, viz. :

Part II., Materia Medica :

Cooke, Percy Seymour.
Garman, Joseph Marcus.
Higgs, Thomas Frederic Walker.
King, Thomas Arthur.
Shanks, Henry Priest.
Whalley, Edgar.

Part III., Elementary Physiology :

Cope, Ricardo.

FOREIGN UNIVERSITY INTELLIGENCE.—*Gratz :* Dr. A. von Rosthorn of the German University of Prague has been appointed to the chair of Midwifery and Gynæcology in succession to the late Dr. von Rokitansky. Dr. Oskar Zoth has been appointed Extraordinary Professor of Physiology.—*Munich :* Dr. Jakob Berten of Würzburg has been appointed Extraordinary Professor of Odontology.—*Utrecht :* Dr. B. J. Kouwer of Haarlem has been appointed to the Professorship of Midwifery and Gynæcology.—*Vienna :* Dr. Heinrich Obersteiner has been promoted to an Ordinary Professorship of Neurology.—*Zürich :* Dr. von Frey of Leipsic has been appointed to the chair of Physiology.

VACCINATION AT CARDIFF.—At a meeting of the Cardiff Union Vaccination Committee held on Nov. 7th it was stated that last year the births in Cardiff numbered 5784 and the vaccinations were 4794.

THE CANTOR LECTURES. — The next Cantor Lecture at the Society of Arts will be delivered on Monday, Nov. 21st, by Professor Vivian B. Lewes. The subject of the lecture will be Acetylene.

ROYAL COLLEGE OF SURGEONS IN IRELAND.—At a meeting of the President, Vice-president, and Council, held on Friday, Nov. 11th, Mr. Fred. W. Kidd, M.D., L.R.C.S.I., Master Coombe Hospital, was elected Professor of Midwifery and Gynæcology.

NEW WATERWORKS FOR SWANSEA.—The ceremony of cutting the first sod of the new Swansea Waterworks at Cray, Breconshire, was performed by the Mayoress on Nov. 10th. The plans are for a reservoir to contain not less than a thousand million gallons.

FORGING A DEATH CERTIFICATE.—On Nov. 7th a man was charged at St. Asaph with forging a death certificate. Defendant went to the St. Asaph registrar and produced a certificate of death of his mother-in-law, alleged to have been issued by Dr. Jones of Rhyl. He then asked for a copy for an insurance company. Defendant pleaded guilty and was fined the full penalty, £10 and costs.

THE LATE MR. LLEWELLYN COUCH.—A meeting was held at Swansea on Nov. 8th, presided over by the Mayor, at which it was decided to raise a fund for the widow and children of the late Mr. Llewellyn Couch and to perpetuate his heroic self-sacrifice by erecting a suitable memorial. The father and brother of the deceased are members of the medical profession practising in Swansea.

THE BRITISH MEDICAL TEMPERANCE ASSOCIATION. — On Nov. 9th a breakfast meeting was held at the Cannon street Hotel, London, convened by the British Medical Temperance Association, to which students from the various London hospitals were invited. Seventy guests sat down. After the breakfast the President of the association (Dr. Sims Woodhead) spoke of the important influence they would be able to exert in their future practice if they were total abstainers. Many years ago it was the fashion to bleed and salivate, and when this was found to be injurious some of the older men said it was due to a change in the type of disease. He had no doubt that hereafter the same excuse would be made to account for the disuse of alcohol. Dr. Louise Appel also addressed the audience and strongly urged them to join the association, no pledge being required or subscription from students but simply the practice of total abstinence. Eighteen students joined the association.

A SANATORIUM FOR PHTHISICAL PATIENTS.—A meeting to consider a proposal for providing a sanatorium for phthisical patients in Yorkshire was held at the Mansion House, York, on Oct. 27th. The Lord Mayor presided and there was a numerous attendance, including the Marchioness of Zetland, the Countess of Harewood, Mrs. W. H. A. Wharton, Sir William Broadbent, Bart. (chairman of the Executive Committee of the National Association for the Prevention of Consumption), Mr. Malcolm Morris (treasurer of the association), and Sir J. Crichton Browne. Sir William Broadbent in the course of an address which he delivered gave a very encouraging account of the results obtained by the open-air treatment of tuberculosis. Mr. Malcolm Morris referred in terms of warm commendation to the efforts made by Mrs. W. H. A. Wharton and the Marchioness of Zetland on behalf of a sanatorium in Yorkshire. On the motion of the Marchioness of Zetland, seconded by Dr. Eddison, it was resolved: "That it is desirable to found a sanatorium for the cure of consumption in Yorkshire," and it was decided to form in York a local branch of the National Association for the Prevention of Consumption.

THE STUDY OF LEPROSY IN BRESLAU.—Arrangements are being made for the careful study and treatment of leprosy in the Breslau University Clinic for Skin Diseases, the patients being brought from Eastern Prussia with great precautions as to isolation and disinfection of the railway carriages.

THE PLAGUE.—The newly appointed scientific Commission for the investigation of plague in India will unfortunately find a great deal to engage their attention on arrival in that country, for the latest telegraphic intelligence from India does not show that there are any signs of abatement of the disease.

PRESENTATIONS TO MEDICAL MEN.—On Nov. 5th, at Sherburn, on the presentation of certificates and medallions to the members of the South Milford (North-Eastern Railway) Ambulance Class, Mr. E. P. Pickersgill, L.R.C.P. Edin., M.R.C.S. Eng., was the recipient of a carriage clock in token of appreciation of his services to the class.—Mr. J. Todd, M.R.C.S. Eng., of Gateshead-on-Tyne, who is one of the town's oldest medical practitioners, and who has been for twenty years the medical officer of the Gateshead Branch of the Boiler-makers' Iron and Steel Ship Builders' Society, has been entertained to supper at the Royal Hotel, Gateshead, by the present and past officials of the branch, and presented on the occasion with a gold-mounted umbrella as a mark of the high esteem in which he is held by them.

MUNICIPAL HONOURS TO MEDICAL MEN.—In the Borough of Tunbridge Wells at the recent municipal elections the following members of the medical profession were duly elected: Mr. George Abbott, L.R.C.P. Lond., M.R.C.S. Eng.; Mr. Lawson Dodd, L.R.C.P. Lond., M.R.C.S. Eng; and Mr. Norman Hay Forbes, F.R.C.S. Edin., L.R.C.P. Lond., M.R.C.S. Eng.—Dr. F. J. A. Waring was elected an alderman at the first council meeting at Hove under the new charter of incorporation of that town.—Mr. Joseph Harper, M.R.C.S. Eng., L.R.C.P. Lond., J.P., has been elected an alderman for Barnstaple; Mr. George Swithin Adee Waylen, L.R.C.P. Lond., M.R.C.S. Eng., L.S.A., an alderman for Devizes; Mr. William Banks, M.B. Lond., M.R.C.S. Eng., an alderman for Falmouth; and Mr. James Bunting, M.R.C.S. Eng., L.S.A., has been appointed deputy mayor of Torquay.

ROYAL METEOROLOGICAL SOCIETY.—The opening meeting of the session was held on Wednesday evening, Nov. 16th, at the Institution of Civil Engineers, Great George-street, Westminster, when a report on experiments upon the exposure of anemometers at different elevations was presented by the Wind Force Committee. The experiments have been carried out by Mr. W. H. Dines and Captain Wilson-Barker on board H.M.S. *Worcester* off Greenhithe, and among the conclusions arrived at was one that no other form of anemometer offers such advantages as the pressure-tube from the fact that it can be run up and secured easily at the necessary height above a building and that the pipes and stays can be slight so as to offer no resistance to the wind or cause any deflecting current.—Mr. W. Marriott exhibited some lantern slides showing the damage caused by the tornado which burst over Camberwell about 9.30 P.M. on Oct. 29th. The damage was confined to an area of about half a mile in extent and within that space chimney-stacks were blown down, houses unroofed, trees uprooted, and windows broken.

MEDICAL REFORM.—On Nov. 5th the Gateshead Medical Association formally entered into affiliation with the Corporate and Medical Reform Association, Limited, as the result of two meetings held on Oct. 15th and Nov. 1st. The former was a meeting of the medical profession of Gateshead and neighbourhood convened by the local association, the President, Mr. J. H. W. Ridley, in the chair, to hear an address by Mr. R. B. Anderson, F.R.C.S. Eng., submitting as its representative the policy and proposals of the Corporate and Medical Reform Association. A resolution was passed in favour of the policy of the association, and a vote of thanks to Mr. Anderson for his address was carried by acclamation. Dr. Cox, who moved the resolution, said that he had always supported, and would continue to support, any association which offered a reasonable expectation of benefit to the body of the profession. He warned Mr. Anderson that the support of Gateshead would only be continued if useful work were seen to be in progress. Dr. Mearns seconded the resolution, which was supported by several others. At an ordinary meeting on Nov. 1st it was moved by Dr. Cox, seconded by Mr. Ridley (President), and carried unanimously: "That this association endorses the policy of the Corporate Medical Association, Limited, and will take steps to affiliate with it."—On Oct. 28th the New Cross Medical Society formally entered into affiliation with the Corporate and Medical Reform Association, Limited, pursuant to resolutions unanimously adopted at general meetings on Oct. 5th (Dr. C. P. Handson, President, in the chair), to support the association and coöperate in its policy and measures, and on Oct. 12th to affiliate with the association. The affiliation is to take effect from the date of the second resolution.

BOOKS, ETC., RECEIVED.

BAILLIÈRE, TINDALL, AND COX, King William-street, Strand, London.
- The Throat and Nose and Their Diseases. By Lennox Browne. Fifth Edition. Coloured Plates. 1899. Price 31s. 6d. net.
- A Guide to the Examinations by the Conjoint Examining Board in England. By F. J. Gant, F.R.C.S. Seventh Edition, revised by W. Evans, M.D., B.Sc. Lond., F.R.C.S. 1898. Price 5s.
- Aids to Materia Medica. Part II., Drugs of Vegetable Origin. By William Murrell, M.D., F.R.C.P. 1899. Price 2s. 6d.

BALE, J. & SONS, Great Titchfield-street, London.
- Cerebral and Mental Symptoms: A Thesis. By J. C. Simpson, M.B., C.M., M.D. 1898. Price 5s. net.
- West London Medical Journal. Edited by P. Dunon, F.R.C.S. Vol. III. Nos. January, April, July, October, 1898.

BLACKIE & SON, Old Bailey, London.
- A Mystery of the Pacific. By Oliphant Smeaton. Illustrated. 1899. Price 5s.
- Courage! True Hearts. The Story of Three Boys who Sailed in Search of Fortune. By Gordon Stables, M.D., C.M. Illustrated. 1899. Price 3s. 6d.
- Under Wellington's Command. A Tale of the Peninsular War. By G. A. Henty. Illustrated. 1899. Price 7s.
- At Aboukir and Acre. A Story of Napoleon's Invasion of Egypt. By G. A. Henty. Illustrated. 1899. Price 5s.
- Chips and Chops and Other Stories. By R. Neish. Illustrated. 1899. Price 2s.
- The Reign of the Princess Naska. By Amelia H. Stirling, M.A. Illustrated. 1899. Price 2s. 6d.

BLACKWOOD, WM., & SONS, London and Edinburgh.
- Windyhaugh: a Novel. By Graham Travers (Margaret G. Todd, M.D.). 1898. Price 6s.
- Dr. Southwood Smith: A Retrospect. By his Grand-daughter, Mrs. C. L. Lewes. 1898. Price 6s.

BUTTERWORTH & Co., Fleet-street, London.
- The Housing of the Working Classes Act, 1890, and Amending Acts. By C. B. Allan and F. J. Allan, M.D., D.P.H. 1898.

CASSELL AND COMPANY, London.
- Diseases of the Skin. By Malcolm Morris. Illustrated. New Edition. 1898. Price 10s. 6d.
- Gout: Its Pathology and Treatment. By A. P. Luff, M.D. Lond. 1898. Price 5s.

CHURCHILL, J. & A., Great Marlborough-street, London.
- A Handbook of Hygiene and Sanitary Science. By Geo. Wilson. Eighth Edition. 1898. Price 12s. 6d.

DORNAN, W. J., Philadelphia.
- Transactions of the American Surgical Association. Vol. 16. 1898.

FURNIVAL, W. J., Stone, Staffordshire.
- Researches on Leadless Glazes. By Wm. J. Furnival. 1898. Price 5 guineas.

GLAISHER, H. J., Wigmore-street, Cavendish-square, London.
- On the Study of the Hand for Indications of Local and General Disease. By Edward Blake, M.D. 1898. Price 2s. 6d. net.

GREVEL, H. & Co., King-street, Covent-garden, London.
- Chemistry in Daily Life. By Dr. Lassar-Cohn. Translated by M. M. P. Muir, M.A. Camb. Illustrated. Second Edition. 1899. Price 5s.

HIRSCHWALD, A., Berlin.
- Die Nebenwirkungen der Arzneimittel. Von Professor Dr. L. Lewin. Dritte Auflage. 1899.

INSTITUT DE BIBLIOGRAPHIE SCIENTIFIQUE, Paris.
- Chirurgie de l'Utérus. Par H. Delagénière. 1898.

LEHMANN, J. F., München.
- Atlas der äusseren Erkrankungen des Auges, nebst Grundriss ihrer Pathologie und Therapie. Von Professor Dr. O. Haab in Zürich. 1899.

LONGMANS, GREEN, AND CO., Paternoster-row, London.
- Transactions of the Clinical Society of London. Vol. 31. 1898.

MASSON ET CIE., Paris.
- Énergétique Musculaire. Par F. Laulanié. 1898.
- L'Occlusion Intestinale. Par L. Bauby. 1898.

MEDICO-LEGAL JOURNAL OFFICE, Broadway, New York
- Medico-Legal Studies. By Clark Bell of the New York Bar Vol. V. 1898.

OLIVER AND BOYD, Edinburgh.
The Transactions of the Edinburgh Obstetrical Society. Vol. XXIII. Session 1897-1898.

PENTLAND, YOUNG J., Edinburgh and London.
Contributions of Clinical Medicine. By T. McCall Anderson, M.D. Edited by Jas. Hinshelwood, M.A., M.D. 1898.

PLON, H., NOURRIT, ET CIE., Paris.
Leçons de Clinique Thérapeutique sur les Maladies du Système Nerveux. Par Dr. Gilles de la Tourette. 1898.

PRINTED FOR THE ASSOCIATION OF AMERICAN PHYSICIANS, Philadelphia.
Transactions of the Association of American Physicians. Vol. 13. 1898.

SAMPSON LOW, MARSTON AND CO., Fetter-lane, Fleet-street, London.
A Primer of Psychology and Mental Disease. By C. B. Burr, M.D. Second Edition. 1898.
Practical Uranalysis and Urinary Diagnosis. By C. W. Purdy, M.D., LL.D. Fourth Edition. Illustrated. 1898.
Madeira and the Canary Islands. A Practical Guide with Coloured Maps and Plans. By A. S. Brown. Fifth Edition. 1898. Price 2s. 6d.
The Guide to South Africa. With coloured Maps, Plans, and Diagrams. Edited annually by A. S. Brown and G. G. Brown for the Castle Mail Packet Company. 1898-99 Edition. Sixth Edition. Price 2s. 6d.

SCOTT, WALTER, Paternoster-square, London.
Degeneracy: Its Causes, Signs, and Results. By Eugene S. Talbot, M.D., D.D.S. Illustrated. 1898. Price 6s.

SMITH, ELDER, AND CO., Waterloo-place, London.
Transactions of the Pathological Society of London. Vol. 49. 1898.

STEINHEIL, G., Paris.
Traité de l'Allaitement et de l'Alimentation des Enfants du premier âge. Par Dr. A. B. Marfan. 1899.
Traité de la Dysurie Sénile et de ses diverses Complications. Par Victor Rochet. 1899.
Leçons de Clinique Chirurgicale, faites à l'Hôtel-Dieu (Août-Septembre, 1897). Par Pierre Delbet. 1899.

UNWIN, T. F., Paternoster-square, London.
Life of Man on the High Alps. By Angelo Mosso. Translated from the second edition of the Italian by E. Lough Kicsow. 1898. Price 21s.

VEIT AND CO., Leipsic.
Grundzüge einer allgemeinen Pathologie der Verdauung. Von S. M. Lukjanow. 1899.

Tenth Report of the State Board of Health of the State of Maine for the two years ending Dec. 31st, 1897—1896-1897. (Kennebec Journal, Point Augusta, 1898).—Wright's Improved Physicians', Surgeons', and Consultants' Visiting Lists for 1899. A., B., and C. compiled by R. Simpson, L.R.C.P., L.R.C.S. Sixth Edition. (J. Wright and Co., Bristol). Price, each, 5s. 6d. net.—Shakespearean Daily Calendar for 1899. The Poetical Daily Calendar for 1899. (Bemrose and Sons, London). Some Health Aspects of Education. By Dr. Percy Lewis. (The Scientific Press, Southampton-street, Strand, London, W.C. 1898). Price 1s.—Drs. Harvey and Davidson's Syllabus of Materia Medica. By William Martindale, F.L.S., F.C.S. Tenth Edition. (H. K. Lewis, Gower-street, London, 1898). Price 1s. net.—Smith's Physicians' and Surgeons' Visiting List for 1899. This is the oldest of the Medical Diaries and is adapted for different numbers of patients. (Hazell, Watson, and Viney, 52, Long-acre, London).

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, for publication in the next number.*

AGAR, MORLEY, L.R.C.P. Lond., M.R.C.S., has been appointed Assistant Surgeon and Surgeon in charge of the Nose, Throat, and Ear Department at the Hospital of St. Francis, New Kent-road, London.

BAUMANN, E. P., M.B., Ch.B. Edin., M.R.C.S. Eng., L.R.C.P. Lond., has been appointed House Surgeon for the Glasgow Royal Infirmary.

BLAMEY, J., M.R.C.S., has been re-appointed Medical Officer of Health by the Penryn Urban District Council.

BOOTH, J. MACKENZIE, M.D. Aberd., has been appointed Second Surgeon to the Aberdeen Royal Infirmary.

BOYCOTT, ARTHUR NORMAN, M.D. Lond., Senior Assistant Medical Officer, London County Asylum, Cane Hill, has been appointed Medical Superintendent to the new Hertfordshire County Asylum, Hill End, St. Albans.

BRANWELL, CHARLES, L.R.C.P. Lond., M.R.C.S., has been appointed to the Royal Cornwall Infirmary, Truro.

CARLESS, EDWARD NICOLLS, M.D., C.M. Aberd., L.F.P.S. Glasg., J.P., has been appointed Medical Officer of Health for Devizes.

CHURCH, ANNA L., M.D. R.U.I., has been appointed Medical Officer in charge of the Victoria Hospital, Calcutta.

COLYER, WILFRID H., M.R.C.S., L.R.C.P., has been appointed House Physician to the Queen's Hospital, Birmingham.

COWIE, GEO., M.B., C.M. Aberd., has been appointed an Assistant Medical Officer for the City-road Workhouse of the Holborn Union, London.

CROSSLEY, H. J., L.R.C.P. Lond., M.R.C.S., has been appointed an Assistant Medical Officer for the Crumsall Workhouse of the Township of Manchester.

DENT, HOWARD H. C., M.B. Durh., M.R.C.S., L.R.C.P., has been appointed House Surgeon to the Queen's Hospital, Birmingham.

DU CANE, EDGAR, B.A., M.B., B.Ch., has been appointed Assistant Surgeon for the Great Western Railway Hospital and Works, New Swindon.

DUNCAN, CECIL C., has been appointed an Analyst for the County of Worcester.

FIELD, R. C., M.B. Lond., has been appointed Resident Obstetric Officer for the General Infirmary at Leeds.

FOX, E. H. BRUCE, L.R.C.P. Lond., M.R.C.S., has been appointed House Surgeon to the Royal South Hants Infirmary.

GAIRDNER, J. FRANCIS R., M.B., C.M. Glasg., M.R.C.S. Eng., L.R.C.P. Lond., has been appointed Resident Surgical Officer for the General Infirmary at Leeds.

GARDEN, R. J., M.D. Aberd., has been appointed Senior Surgeon to the Aberdeen Royal Infirmary.

GRAY, H. M. W., M.B., C.M. Aberd., has been appointed an Assistant Surgeon to the Aberdeen Royal Infirmary.

HAY, J., M.B., Ch.B. Vict., L.R.C.P. Lond., M.R.C.S., has been appointed an Assistant Medical Officer for the Infirmary of the West Derby Union, vice S. R. Christophers, resigned.

JOLLEY, J. H., L.S.A., has been appointed a Medical Officer for the Sixth Sanitary District of the Bridgwater Union.

LAMPLOUGH, CHARLES, M.D., M.R.C.S., L.R.C.P., has been appointed Medical Officer of Health by the Chatteris Urban District Council.

LEAH, THOMAS, M.R.C.S., L.S.A., has been re-appointed Medical Officer of Health for Stonehouse, Devon.

LORD, C. COURTENAY, M.A. Cantab., M.R.C.S., L.R.C.P., has been appointed Ophthalmic and Obstetric House Surgeon to the Queen's Hospital, Birmingham.

MCANALLY, E. A., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer to the No. 3 Sanitary District of the Hollingbourne Union.

MCKINLAY, J. R., L.S.A., has been appointed an Assistant Medical Officer for the Gordon-road Workhouse of the parish of St. Giles, Camberwell.

OGSTON, W. F., M.B., Ch.B. Vict., has been appointed a House Physician for the General Infirmary at Leeds.

PALMER, HORACE J., L.R.C.P. & S. E., L.F.P. & S. Glasg., has been appointed a Certifying Factory Surgeon to the Civil Parish of Gamlingay in Caxton and Arrington Rural Sanitary District, and the Civil Parishes of Potton, Cockayne-Hatley, Sutton, and Wrestlingworth Rural Sanitary District.

PITT, CHARLES WIGHTWICK, M.R.C.S., L.S.A., has been appointed Medical Officer of Health for Devizes.

PITT, G. N., M.D., B.C. Camb., F.R.C.P. Lond., M.R.C.S., has been appointed a Physician to Guy's Hospital, London.

RIDDELL, J. S., M.B., C.M. Aberd., has been appointed Third Surgeon to the Aberdeen Royal Infirmary.

SHARPE, C. H., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed a Medical Officer by the West Bromwich Guardians.

SKIPWORTH, H., L.R.C.P. Irel., M.R.C.S., has been re-appointed Medical Officer of Health for the Quorndon Urban Sanitary District.

SPONG, R., M.B., Ch.B. Vict., has been appointed a Resident Medical Officer at the Ida Hospital, Leeds.

STANSFIELD, H., M.B., Ch.B. Vict., has been appointed a House Physician for the General Infirmary at Leeds.

TORRENS, J., M.D. Irel., has been appointed a Medical Officer for the Workhouse of the Seisdon Union.

TRETHEWY, A., M.B., B.C. Cantab., M.R.C.S., L.R.C.P., has been appointed Resident Medical Officer for the Haileybury College.

TROTTER, E., M.B., Ch.B. Vict., has been appointed a House Surgeon for the General Infirmary at Leeds.

TURTON, E., M.B., Ch.B. Vict., has been appointed a House Surgeon for the General Infirmary at Leeds.

TYNDALE, W. R., M.B., C.M. Aberd., L.R.C.P. Lond., M.R.C.S., has been re-appointed Medical Officer of Health by the Hampton District Council.

Vacancies.

For further Information regarding each vacancy reference should be made to the advertisement (see Index).

BEDFORD COLLEGE, LONDON, FOR WOMEN, York-place, Baker-street, W.—Professorship of Hygiene.

BIRMINGHAM PROVIDENT DISPENSARY (SANDS COX TRUST), HOCKLEY BRANCH.—Medical Officer. Salary in proportion to the number of members, with a minimum of £250 per annum and residence.

BRADFORD ROYAL INFIRMARY.—Junior House Surgeon, unmarried. Salary £50 per annum, with board and residence.

CARDIFF INFIRMARY.—Assistant House Surgeon for six months. Salary at the rate of £50 per annum, with board, washing, and apartments.

CENTRAL LONDON OPHTHALMIC HOSPITAL, Gray's-Inn-road, W.C.—Assistant Surgeon.

CHICHESTER INFIRMARY.—House Surgeon. Salary £80 per annum, with board, lodging, and washing.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria-park, E.—House Physician for six months. Salary at the rate of £30 per annum, with board and residence.

DARLINGTON HOSPITAL AND DISPENSARY.—House Surgeon, unmarried. Salary £140 per annum, with lodging. Successful candidate to board himself.

DUNDEE ROYAL LUNATIC ASYLUM.—Medical Assistant. Salary £100, with board and lodging.

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark-bridge-road, S.E.—Junior Resident Medical Officer and Registrar. Salary £50, with board and washing.

FINSBURY DISPENSARY, Brewer-street, Goswell-road, E.C.—Resident Medical Officer for one year. Salary £100 per annum, and a furnished residence provided in the institution, with attendance, coals, and gas.

GENERAL INFIRMARY AT GLOUCESTER AND THE GLOUCESTERSHIRE EYE INSTITUTION.—Assistant House Surgeoncy for six months. Board, residence, and washing provided.

GLAMORGAN COUNTY COUNCIL.—Bacteriologist to work in the Council's Laboratory at Cardiff. Salary £250 a year. No pension is attached. Applications to the Clerk to the County Council, Glamorgan County Offices, Cardiff.

LIVERPOOL DISPENSARIES, 34, Moorfields, Liverpool.—Assistant Surgeon. Salary £80, rising to £90 per annum after the first year's service, with board and residence.

LONDON HOSPITAL, Whitechapel, E.—Assistant Surgeon. Also Medical Registrarship.

MASON UNIVERSITY COLLEGE, Birmingham.—Lecturer on Osteology and Chief Demonstrator of Anatomy.

PLYMOUTH BOROUGH ASYLUM.—Assistant Medical Officer, unmarried. Salary £125 per annum, to be raised by five equal annual increments to £150 per annum, with furnished apartments in the Asylum, and board and washing.

ROTHERHAM HOSPITAL AND DISPENSARY.—Assistant House Surgeon. Salary £40 per annum, with board, washing, and residence.

ROYAL BERKS HOSPITAL, Reading.—Assistant Medical Officer for six months. Board, lodging, and washing provided. An honorarium of ten guineas will be awarded conditionally.

ST. PETER'S HOSPITAL, Henrietta-street, Covent Garden, London.—House Surgeon for six months. Salary at the rate of £100 a year, with board, lodging, and washing.

SHEFFIELD ROYAL HOSPITAL.—Resident Junior Assistant House Surgeon. Salary £50 per annum, with board and washing.

STAFFORDSHIRE COUNTY COUNCIL.—Medical Superintendent for the Staffordshire County Asylum at Cheddington. The salary will commence at £500 per annum, with £200 in lieu of board. The asylum is not yet completed, and the successful candidate is to reside at the residence provided. In addition to the above salary the emoluments include a partly furnished residence, &c.—Applications to the Clerk to the Council, Stafford.

VICTORIA HOSPITAL FOR CHILDREN, Queen's-road, Chelsea, S.W.—Assistant Physician for the Out-patients for two years.

WHITEHAVEN AND WEST CUMBERLAND INFIRMARY.—House Surgeon. Salary £120 per year, and £30 a year for Dispensing, with furnished apartment and attendance.

WILLITON UNION, Somerset.—Medical Officer and Public Vaccinator for the Stogursey District of the Union. Salary £80 per annum, with certain extra fees. Subject to statutory reductions. Applications to the clerk, Williton, Somerset.

Births, Marriages, and Deaths.

BIRTHS.

ATKINSON.—On Nov. 11th, at Holloway-road, N., the wife of R. Atkinson, M.R.C.S., of a son.

CLARKE.—On Nov. 16th, at 3, Chandos-street, Cavendish-square, the wife of Ernest Clarke, M.D., F.R.C.S., of a daughter.

HAZLETON.—On Nov. 7th, at York House, Abbey Dale-road, Sheffield, the wife of Edward B. Hazleton, M.D., of a daughter.

LIGHTFOOT.—On Nov. 12th, at Trevor House, Leyburn, R.S.O., the wife of J. P. Lightfoot, M.R.C.S. Eng., L.R.C.P. Lond., of a son.

MARRIAGES.

COLMAN—CAINE.—On Nov. 16th, at Grafton-square Congregational Church, Clapham, Walter Stacy Colman, M.D., F.R.C.P., of Wimpole-street, W., son of S. C. Colman, of Peterborough, to Dorothea Caine, M.D., second daughter of W. S. Caine, J.P., of North Side, Clapham-common.

LAMPLOUGH—OWEN.—On Nov. 9th, at St. Mary Abbotts, Kensington, Charles Lamplough, M.D., M.R.C.S., L.R.C.P., son of Robert Lamplough of Leamington Spa, to Edith Mary, daughter of Allen Owen of Avonmore Mansions, Kensington.

SCOTT—ROSE.—On Nov. 5th, at the English Church, Funchal, Madeira, by the Rev. W. Graham, John Geddes Scott, L.R.C.P. Lond., M.R.C.S. Eng., of Funchal, only son of the late W. B. A. Scott, M.D., to Mabel Bessie Louise, only daughter of the late Charles Rose, Esq., of Western Australia, and Mrs. Rose, of Funchal.

SMITH—RUSSELL.—On Nov. 9th, at St. Mark's Church, Greenwich, Captain Henry Smith, M.D., I.M.S., to Hester Dill Russell, M.D., R.U. Irel.

YELD—BOND.—On Nov. 10th, at St. Nicholas's Church, Brighton, Walter Harry Yeld, M.R.C.S., L.R.C.P. Lond., younger son of the late W. Walter Yeld, to Ellen Minnie, younger daughter of the Rev. C. W. Bond, M.A., Vicar of St. Nicholas's, Brighton.

DEATHS.

DODSWORTH.—On Nov. 12th, suddenly, at his residence, Evian, Stanmore, George Henry Dodsworth, M.R.C.S.

MACDERMOT.—On Nov. 10th, at The Circus, Bath, Edward Deane MacDermot, M.A., M.D., in his 83rd year.

MACLEAN.—On Nov. 10th, at Oakleigh, Sidmouth, Devon, aged 87 years, Surgeon-General William Campbell Maclean, C.B., LL.D., M.D., Honorary Surgeon to the Queen, sixth son of the late John Maclean of Boreray and Drimnin, N.B.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (21st).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M., Ophthalmic 1.15 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), St. Mark's (9.30 A.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), Westminster (2 P.M.), London Throat Hospital (2 P.M.).

TUESDAY (22nd).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), Guy's (1.30 P.M.), St. Thomas's (3.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat Hospital (2 P.M. and 6 P.M.), Royal Ear Hospital (3 P.M.).

WEDNESDAY (23rd).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat Hospital (2 P.M.).

THURSDAY (24th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex, (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M.).

FRIDAY (25th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M., Ophthalmic 10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat Hospital (2 P.M. and 6 P.M.).

SATURDAY (26th).—Royal Free (9 A.M. and 2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), University College (9.15 A.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), Cancer (2 P.M.), London Throat Hospital (2 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

MONDAY (21st).—SOCIETY OF ARTS.—4.30 P.M. Prof. V. B. Lewes: Acetylene. (Cantor Lecture.)

TUESDAY (22nd).—ROYAL MEDICAL AND CHIRURGICAL SOCIETY (20, Hanover-square, W.).—8.15 P.M. Demonstration:—Mr. J. L. Thomas: (1) Penile Stricture from a Case of Urethrectomy; (2) Vermiform Appendix containing a large Concretion. 8.30 P.M. Papers:—Mr. E. Owen: A Distinct Variety of Hip-joint Disease in Children and Young Persons.—Mr. J. Hutchinson, jun., and Mr. H. L. Barnard: On an Improved Method of Treatment of Separation of the Lower Epiphysis of the Femur.

WEDNESDAY (23rd).—DERMATOLOGICAL SOCIETY OF GREAT BRITAIN AND IRELAND (20, Hanover-square, W.).—4.30 P.M. Informal Exhibition of Cases. 5 P.M. Paper:—Mr. C. Williams: Congenital Syphilis: a New Theory. Dr. A. Hall (Sheffield): (1) Note on Eczema produced by Phenyl Hydrazin Hydrochlorate; (2) Photograph of a Case of Primary Syphilis with Two Hard Sores on the Hand.

HUNTERIAN SOCIETY (London Institution, Finsbury-circus).—8.30 P.M. Dr. T. G. Lyon: An Enquiry into the Production of Blood Plasma, its Vital Properties and mode of Nourishing the Tissues.—Mr. T. H. Targett: Two Cases of Cancer of the Uterus with Pregnancy.

FRIDAY (25th).—CHARITY ORGANISATION SOCIETY (Portman Rooms, Baker-street, W.).—4.30 P.M. Miss A. Hughes: District Nursing. (Course of Lectures on Medical Relief.)

CLINICAL SOCIETY OF LONDON (20, Hanover-square, W.).—8.30 P.M. Papers:—Mr. W. G. Spencer: Gumma of the Liver—Cases in which Surgical Measures were followed by Relief.—Dr. M. Fletcher: Green Urine.—Mr. F. C. Wallis: Two Cases of the Effects of Gastric Ulcer treated by Operation.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

SUNDAY (20th)—SUNDAY AFTERNOON FREE LECTURES (South-place Institute, South-place, E.C.).—Dr. E. B. Forman: Medical London, with lantern illustrations. (Course of Lectures on Our Cities and Municipalities.)

MONDAY (21st).—LONDON POST-GRADUATE COURSE.—London Throat Hospital, Gt. Portland-st., W., 8 P.M., Mr. G. C. Wilkin: Nasal Polypi.

TUESDAY (22nd).—NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-sq., W.C.).—3.30 P.M. Dr. Taylor: Cerebral and Spinal Paralysis in Children.

WEST-END HOSPITAL FOR DISEASES OF THE NERVOUS SYSTEM (73, Welbeck-street, W.).—4 P.M. Dr. T. D. Savill: Cases of Hemiplegia and the Treatment of the Affection.

LONDON POST-GRADUATE COURSE.—Hospital for Skin Diseases, Blackfriars, 4.30 P.M., Dr. P. Abraham: Syphilides.—Bethlem Hospital, 2 P.M., Dr. Craig: Puerperal, Lactational, and Climacteric Insanities.

WEDNESDAY (23rd).—HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST (Brompton).—4 P.M. Dr. S. Martin: Asthma and its Treatment.

LONDON POST-GRADUATE COURSE.—Parkes Museum, Margaret-st., W., 4.30 P.M., Prof. A. Wynter Blyth: Infectious Diseases.

WEST LONDON POST-GRADUATE COURSE (West London Hospital, W.).—5 P.M. Mr. Dunn: Examination of the Eye.

THURSDAY (24th).—LONDON POST-GRADUATE COURSE.—Central London Sick Asylum Cleveland-st., W., 5.30 P.M., Mr. J. Croft: Clinical Lecture.
LONDON TEMPERANCE HOSPITAL.—2 P.M. Dr. S. Fenwick: Clinical and Pathological Demonstration to Senior Students.
CHARING-CROSS HOSPITAL.—4 P.M. Dr. Willcocks: Demonstration of Medical Cases. (Post-Graduate Class.)
THE HOSPITAL FOR SICK CHILDREN (Gt. Ormond-street, W.C.).—4 P.M. Dr. Barlow.

FRIDAY (25th).—LONDON POST-GRADUATE COURSE.—King's College, 3 to 5 P.M., Prof. Crookshank: Erysipelas and Suppuration.
WEST LONDON POST-GRADUATE COURSE (West London Hospital, W.).—5 P.M. Mr. Dunn: Examination of the Eye.

Notes, Short Comments, and Answers to Correspondents.

EDITORIAL NOTICES.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Lectures, original articles, and reports should be written on one side of the paper only, AND, WHEN ACCOMPANIED BY BLOCKS, IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

TO SUBSCRIBERS.

WILL Subscribers please note that only those subscriptions which are sent direct to the Proprietors of THE LANCET at their Offices, 423, Strand, W.C., are dealt with by them? Subscriptions paid to London or to local newsagents (with none of whom have the Proprietors any connexion whatever) do not reach THE LANCET Offices, and consequently inquiries concerning missing copies, &c., should be sent to the Agent to whom the subscription is paid, and *not* to THE LANCET Offices.

Subscribers, by sending their subscriptions direct to THE LANCET Offices, will ensure regularity in the despatch of their Journals and an earlier delivery than the majority of Agents are able to effect.

The rates of subscriptions, post free, either from THE LANCET Offices or from Agents, are:—

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"DOUBLE PERSONALITY."

UNDER the above heading Dr. William Lee Howard of Baltimore describes in the *Maryland Medical Journal* of Nov. 5th "a psychical condition which dissociates the elements of the mind and then combines them into a distinct separate and strange personality. During this state the individual has no recognition of his normal state. He bears a different name, has another occupation, perhaps resides in a different town from his own, acts rationally, and is fairly successful in his new vocation. He suddenly returns to his primary self, and goes back to home and business." The case was that of Mr. B., a respected business man, married, and the father of three children. His position caused him to travel extensively in America: from the Pacific to the Atlantic oceans, from the Gulf of Mexico to Hudson Bay. About ten years' ago he commenced to go away from home without giving any definite statement of where he was going or when he would return. Upon his return he would not, or could not, give any direct answer as to where he had been. On these occasions he appeared slightly dazed in memory and intellect and his appearance was that of a man who had aged greatly from want of sleep. Two years ago, in the month of October, he disappeared and no trace of him could be found until he returned home on Jan. 14th. A man who knew him in his own city found him a month prior to this date conducting a country cross-roads store on the upper Potomac. He carried on business under the name of Simpson and had been known under this name since he had been in the village. He did not know his former acquaintance, and the repeated mentioning of his true name "Mr. B.," he at first took as a joke, then became indignant and was so positive in stating that he was Simpson, giving his past history, stating that he was from Oregon, and going into full and complete details of his life and business in that State, that the former friend went away fully convinced of his mistaken identity. On Jan. 14th he appeared at his own house to the surprise and joy of his family. He was Mr. B. again, but no question as to his past whereabouts could be answer. Dr. Howard continues: "Appreciating his lapse of memory his wife persuaded him to consult me. In his normal condition I could elicit no information, yet he did his best to aid me. His memory of the last three months was a blank and he was pitiably nervous and worried. Without much difficulty he was hypnotised and through tentative suggestions he gradually veered around to his other personality. He said, when I suggested his name was unknown to me and he must tell me, 'D——n it, you know my name is Simpson; what do you want to bother me about it for?' ..... By this manner of questioning Mr. Simpson I found where the body of Mr. B. had been. The next day I hunted up Mr. Simpson's store, and found, indeed, that such an individual existed in the life of the village. Subsequent investigations cleared the whole matter satisfactorily as far as Mr. Simpson was concerned. ..... This man had passed through all the privations and excitement of the civil war. He received his discharge along with an unstable neurotic temperament, which demonstrated itself in a demand for alcoholic stimulants, which demand merged into the disease dipsomania. ..... His continued and reiterated statement that he came from Oregon can be traced to the fact that shortly after the war he had had some exciting and memory-marking episodes in that then wild and unsettled country."

DISEASED MEAT COOKED PREVIOUSLY TO SALE.

THE *Gazzetta degli Ospedali* of Nov. 3rd states that the municipality of Milan intends to provide an apparatus in which the flesh of diseased animals may be subjected to a steam heat of 115° C. (239° F.) previously to sale. It is considered that in this way wholesome food may be obtained from animals affected with tubercle, foot-and-mouth disease, and pleuro-pneumonia, as well as from those which have died from hæmorrhage or injury. The meat so prepared is as juicy as if cooked by the ordinary domestic methods and is in no way deteriorated as an article of food. Shops will be established for the sale of this meat; the price of which will be about 50 centesimi per kilo (2*d.* a pound); the juices which come from the meat in the process will be sold as soup *(brodo)* at 1½*d.* a pint.

THE CARRIAGE BY SEA OF INFECTIOUS CASES.

To the Editors of THE LANCET.

SIRS,—It has occurred to me that attention should be drawn to the risks incurred by healthy passengers making a long sea voyage. I have just reached South Africa from England. On the way out the next cabin to mine was occupied by a youth who had been suffering from pulmonary phthisis for a year. He depended for ventilation on the air from neighbouring portholes, which passed through a 6 in. opening running round the top of his cabin, which had no port. Unfortunately the sea was rough and my port was closed for 11 days (5 days consecutively once). The ventilation then became reversed, the air from the hatch and skylight passing over the phthisical youth and bringing germs, &c., into the *cul-de-sac* formed by my cabin. Apart from the unpleasantness of hearing him cough, &c., no disinfectants were used for his expectoration. He used the same knives and forks and china and glass as the other passengers, and these were naturally washed up with and dried on the same cloths as the rest. Now tuberculosis is regarded as infectious, is it not time that steamship companies should make some provisions to protect their healthy passengers, though the problem may not be an easy one?

I am, Sirs, yours faithfully,

Oct. 24th, 1898. M. W.

AN ACCOUCHEMENT ON THE TOP OF A TRAM CAR.

To the Editors of THE LANCET.

SIRS,—As an illustration of remarkable places to choose for accouchement you will perhaps be interested to know that in my capacity as police surgeon for Bow I was called by the police a short time ago at 9 P.M. to attend a woman who was about to be confined on the top of a tramcar in Bow-road. On getting there shortly after I found the tram run off the metals on to a siding and surrounded by a cordon of police to keep the crowd at a respectful distance. With the assistance of the police matron and a bull's eye lantern everything passed off very satisfactorily, the woman being safely delivered of an infant weighing not less than 8½ lb. They were removed home shortly afterwards on the ambulance and are both at the present moment perfectly well.

I am, Sirs, yours faithfully,

E. A. LIGHTBURNE,
Surgeon, K Division, Metropolitan Police.

Bow-road, E., Nov. 12th, 1898.

THE IMPORTATION OF MICROBES.

ACCORDING to the *Times* the Government of Victoria has taken a very decided line with regard to the importation of microbes. A medical man who recently returned to Melbourne from India, where he had been studying the plague, brought with him a stock of plague bacilli. The authorities of Melbourne strongly objected to the bacilli being imported and asked for their surrender. The medical man is said to have declined to give up the microbes unless compensated to the amount of £300, on which the authorities seized the culture tubes and destroyed them.

A QUESTION.

A, B, and C are practitioners in a country town. All are on the honorary staff of the local cottage hospital. There is a quarrel, a matter connected with the hospital, and B and C *resign*. Thus A is left as the sole honorary surgeon. D now comes on the scene and purchases A's practice and during the introduction by request of the committee assists A to do the work of the hospital. Finally A leaves the town and D is unanimously elected as honorary surgeon to the cottage hospital, which post he fills alone for a time. Then B and C are re-elected as honorary surgeons. D asserts that he is *senior* by priority of election. Is that so?

*** We consider that D is the senior, but under the curious circumstances related he would be well advised not to insist too much on his position.—ED. L.

"VEGETABLES GROWN ON SEWAGE SLUDGE."

"S. K. P." writes to us again upon this subject:—"I thank you for your reply to my question on the above subject in THE LANCET of Nov. 12th, but fear from its tenor that I did not make myself understood. You say, 'the depth at which the sewage sludge is placed (30 in. beneath the surface) is, we should imagine, too great to allow the cabbages to derive much manurial value therefrom, &c.' It appears from this that I conveyed to your mind the impression that there was 30 in. of earth, &c., above the sludge, whereas I intended to explain that the cabbages are planted in earth and dust-bin refuse of the depth of 6 in., beneath which is 30 in. of sludge thus. As this matter is causing a great sensation in the neighbourhood I should be glad to know if this further explanation will at all modify your reply."

*** Under the circumstances detailed it is not likely that the cabbages will be unwholesome. The cabbage is a short-rooted plant and will get most of its nourishment from the top 6 in. rather than from the bottom 30 in.—ED. L.

"SCARLATINIFORM ERUPTION IN INFLUENZA."

To the Editors of THE LANCET.

SIRS,—In reply to the query of "Eruption" in THE LANCET of Nov. 12th as to the appearance of a scarlatiniform rash in influenza let me state that I have noted such an eruption fairly frequently during epidemics of influenza. In my experience it differs from scarlet fever rash in appearing on all parts of the body (which show a rash) simultaneously and with equal distinctness, and in disappearing from all parts simultaneously. The temperature in such cases seldom exceeds 100° or 101° F. Sore-throat and albuminuria are rare in conjunction with the influenzal eruption. Desquamation may occur, but is usually more limited in extent than in scarlet fever and appears not so much in the form of flakes as in the form of fine powder or dust. I am, Sirs, yours faithfully,

West Hartlepool, Nov. 14th, 1898. W. GRAY, M.D. Edin.

To the Editors of THE LANCET.

SIRS,—With reference to the letter of inquiry in THE LANCET of Nov. 12th from "Eruption" on the above subject, I beg to inform him that I have lately had a number of such cases as he describes. In some instances there is practically no difference between the character of the eruption and that of scarlet fever, but in the majority of cases it is somewhat of a mottled character. There is, however, never the strawberry tongue of scarlet fever, the throat is not so much affected, and the fever is of very short duration. Where the eruption is well marked desquamation often occurs. I have considered these cases to be a mixture of influenza and rubeola.

I am, Sirs, yours faithfully,

Brentwood, Nov. 14th, 1898. J. R. WHITE, M.B. T.C.D.

M.D.—Several high-class medical journals are published weekly in Germany and Austria. In Berlin are the *Deutsche Medicinische Wochenschrift* and the *Berliner Klinische Wochenschrift*, each of 12 leaves—i.e., 24 pages—and costing 6 marks per quarter; in Munich there is the *Münchener Medicinische Wochenschrift*; and in Vienna there is the *Wiener Medicinische Wochenschrift*, sent post free out of Austria for 24 marks per annum. All these are printed in Roman characters. The German dictionary published by Cassell and Co. will serve every ordinary purpose, but for reading medical works a dictionary of medical terms is almost essential. The "German-English Medical Thesaurus," published in 1895 by the author, the Rev. Henry Losch, M.D., of 4109, Pine-street, Philadelphia, U.S.A., is copious and good in the anatomical and pathological part. (Pp. 323. Price $2.50.) Sudthausen's "Sprachführer für die Aerztliche und Pharmaceutische Praxis" (two little volumes, price 4.80 marks; Leipzig: Eduard Besold, 1896) has fairly good lists of surgical requisites and pharmaceutical appliances. There are one or two more works of the same kind published in Germany. The German columns in the "Nomenclature of Diseases" may also be consulted with advantage.

E. H. S.—Medical Nursing: Notes of Lectures given to the Probationers at the London Hospital, by the late James Anderson, M.D., F.R.C.P. (London: H. K. Lewis. 1894.); Lectures on Medicine to Nurses, by Herbert Cuff, M.D. Lond., F.R.C.S. (London: J. & A. Churchill. 1896.)

Persevere.—To adopt the style of "Colonel" under the circumstances mentioned by our correspondent would not be in strict accord with any of the Royal Warrants. The titles applying to the active service have not, as yet, been conferred upon retired officers unless those officers are employed.

L.R.C.P., M.R.C.S.—Such a medical man has passed an examination in surgery and is admitted to the Medical Register as a fully qualified man on terms of equality with the rest of the profession. Under these circumstances we do not think the description need be cavilled at.

Senex.—The course in both cases is a matter of taste. There is no prescribed ritual. Different localities have different customs and it is well for the new-comer to consult an old inhabitant as to his procedure.

A Provincial Surgeon.—The letter is a little long for our columns and is, moreover, written on both sides of the paper, which gives great trouble to the printers. Also such a letter should be signed by its author.

F. C. J.—We do not give such advice. The questions can be answered by the medical adviser, to whom we shall be happy to give any assistance he may need.

Subscriber.—As our correspondent puts the case we do not see anything unprofessional or ungentlemanly in the conduct of the resident medical man.

Rural.—1. To make such calls is unusual and unnecessary. 2. It would be much preferable to give the address of an agent.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Nov. 17th, 1898.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radia. in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks at 8.30 A.M.
Nov. 11	30·03	S.E.	...	65	57	49	49	49	Foggy
,, 12	29·81	S.E.	...	62	56	47	48	48	Foggy
,, 13	29·80	S.W.	0·01	74	56	48	49	50	Fine
,, 14	30·27	S.W.	...	63	54	42	42	42	Foggy
,, 15	30·29	S.W.	0·01	62	55	42	48	49	Foggy
,, 16	30·20	S.W.	...	64	59	49	54	55	Overcast
,, 17	30·28	S.	...	57	57	55	55	56	Dense Fog

During the week marked copies of the following newspapers have been received: *Western Morning News, Glasgow Herald, Ayr Observer, East Essex and Halstead Times, Accrington Observer, Leicester Post, Pioneer Mail, Times of India, Warrington Guardian, Architect, Builder, Cambridge Express, Yorkshire Post, Le Temps (Paris), Bedford Standard, Citizen, Scotsman, Bristol Mercury, Bradford Observer, Eastern Morning News, Birmingham Mail, Bournemouth Guardian, Liverpool Daily Post, Temperance Chronicle, North British Daily Mail, Manchester Guardian, Midland Evening News, Brighton Gazette, Weekly Times and Echo, Scarborough Mercury, Leeds Mercury, Herts Advertiser, Daily News, Sussex Daily News, Telegraph, Electricity, Sanitary Record, Hertfordshire Mercury, Reading Mercury, Local Government Chronicle, City Press, Surrey Advertiser, Local Government Journal, Sheffield Daily Telegraph, Guernsey Star, Western Mail, Sunday Chronicle (Manchester), Fife Herald, Bury Free Press, Mining Journal, Spalding Guardian, Essex Times, Wigan Observer, &c., &c.*

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